





Agenda 1 – EnBW at a glance

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1.1 EnBW at a glance¹



One of the largest German utilities

- > 5.5 m customers
- > 13 GW generation portfolio
- > Stable shareholder structure
- > 21,000 employees
- > Strong roots in Baden-Württemberg

Balanced risk-return profile

- Focus on renewables and grids
- > ~65% EBITDA contribution from low-risk business
- > Solid investment grade ratings
- Active in selected foreign markets

Key financial figures

- > Revenue: €22 bn
- › Adj. EBITDA: €2.1 bn
- > Group net profit/loss: €2.1 bn

Fully integrated utility in Germany



Four Business Segments



Sales



Grids



Renewable Energies



Generation & Trading

¹ As of 31 December 2017

² E&P Business (Exploration & Production) via VNG Norge AS sold in 2018 (closing expected in autumn 2018)



1.2 Key figures



Key financials

KPI		2017	Forecast 2020	Target 2020
Adjusted EBITDA	€bn	2.1	2.3 - 2.5	Securing profitability
Internal financing capability	%	111.9	>100	Maintain financial discipline
ROCE	%	7.3	8.5 - 11	Raising the Group's value

Key non-financials

KPI	2017		Forecast 2020	Target 2020	
RE share of generation capacity	%	25.9	> 40	Expand renewable energies	
CO ₂ intensity	g/kWh	556	-15 % to -20%	Reducing CO ₂ intensity by 15 to 20%	
Customer Satisfaction Index (EnBW / Yello)		143/161	>136 / >159	Customer proximity	
Employee Commitment Index		60	65	Employee commitment	



Agenda 2 – Environment



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2.1 Political & regulatory environment



Paris Climate Agreement: Hold the increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels

EU 2020 goals

-20% GHG emissions

20% RE in final energy consumption

20% Energy savings

EU 2030 goals

-40.0% GHG emissions

32.0% RE in final energy consumption

32.5% Energy savings

German Climate & Energy Policy Goals

-40% GHG emissions by 2020

-20% primary energy consumption by 2020

Nuclear phase-out

- Goal Last NPP to shut down by end of 2022
- Responsibility for financing of phase-out split between operators and government
- State-owned fund established in mid 2017
- Operators have partly transferred nuclear provisions and related liabilities to state

Renewables

Goal 2025: 40–45% RE 2035: 55–60% RE in electricity production

- RE share goal to be increased to 65% by 2030 in current legislative period
- Additional tenders for onshore wind and PV expected in 2019/2020
- Debate on tariff system and costs of power ongoing.
 Changes to charges expected

Coal phase-out

- Newly established commission to set phase-out date for coal-fired power generation by end of 2018
- Goal Commission to set short-term goal for decommissioning a number of coal-fired power plants to reduce gap relative to national climate goals for 2020

Electricity grid expansion

- Remove bottleneck in energy transition
 - (i.e. slowing grid expansion)
- Underground cabling given priority over overhead powerlines
- System of grid charges to be amended in next legislative period



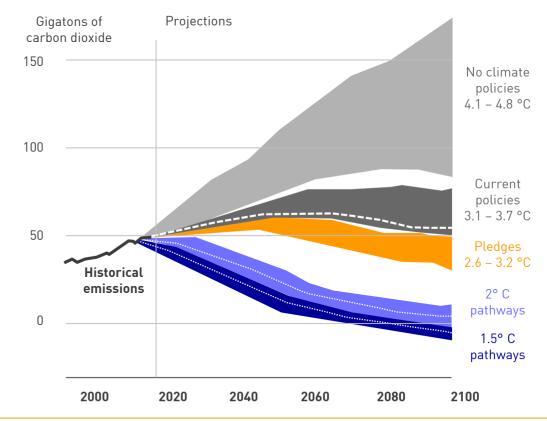
2.2.1 Decarbonisation: Global regulatory framework on climate change



The Paris Agreement

- Adopted at the UN Climate Change Conference COP21 in December 2015 by the 196 Parties to the UN Framework Convention on Climate Change (UNFCCC)
- > Established a global warming goal well below +2°C on pre-industrial average with efforts to limit warming to +1.5°C in 2100 in relation to pre-industrial levels.
- Aims at achieving net-zero emissions in the second half of this century
- Defined a universal, legal framework where all countries develop and communicate their mitigation measures and "nationally determined contributions" (NDCs)
- > Will be further defined at COP24 in Poland in 2018

Effect of current pledges and policies on global GHG emissions





Current pledges lead to global warming of at least +3 °C

(without yet calculating the impact of spill-over effects above +2 °C warming)



2.2.2 Decarbonisation: International climate politics: Key events 2018



UN Climate Change Conference (Intersessionals) in Bangkok, Thailand

- > When: 4-9 September
- Goal: Preparation of a draft resolution for the UN Climate Change Conference later in 2018

Approval of IPCC Special Report "Global Warming of 1.5°C"

- > Final approval 1-5 October 2018
- > The report will be about the impacts of global warming of 1.5°C above preindustrial levels and related global GHG emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty

UN Climate Change Conference COP24 in Katowice, Poland

- > When: 3-14 December 2018
- > Goal: Create a framework and refine the details of the Paris Agreement (2015), among other things with uniform rules on how countries can reliably measure and report their CO_2 emissions and national contributions to climate protection

Other reports by 2022 include

- IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (2019)
- > IPCC Special Report on Climate Change and Land (incl. desertification, land degradation, sustainable land management, food security) (2019)
- > IPCC Sixth Assessment Report (2021/2022)



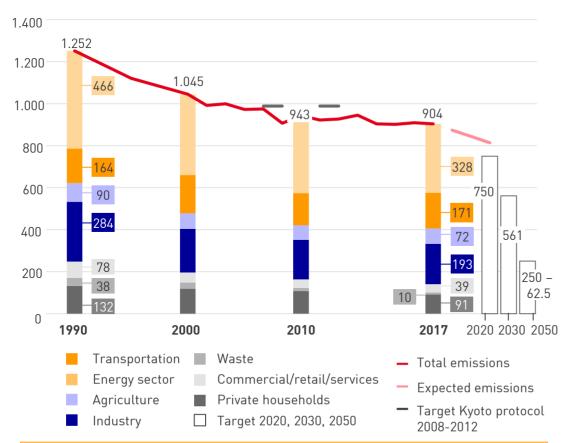


2.2.3 Decarbonisation: National GHG emissions and climate protection targets



German GHG emissions by sector

(in m t CO₂-equivalent; Source: UBA)



Sector targets for GHG emissions according to the German climate strategy Klimaschutzplan 2050

Sector	1990 (in m t CO ₂ - eq.)	2014 (in m t CO ₂ - eq.)	2030 (in m t CO ₂ -eq.)	2030 (reduction compared to 1990)
Energy	466	358	175-183	62-61%
Buildings	209	119	70-72	67-66%
Transportation	163	160	95-98	42-40%
Industry	283	181	140-143	51-49%
Agriculture	88	72	58-61	34-31%
Subtotal	1.209	890	538-557	56-54%
Others	39	12	5	87%
Total amount	1.248	902	543-562	56-55%



The emission reduction target for 2020 will be missed by at least 60 m t CO₂.



2040 emissions target at least 70% below 1990 and 2050 target 80-95% below 1990.



2.2.4 Decarbonisation: 2020 targets no longer attainable in Germany and further reduction in coal-based generation by 2030 essential to target attainment

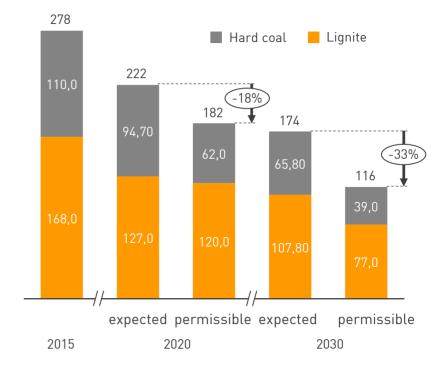


Situation in Germany

- German government has declared 2020 target unattainable but reaffirmed 2030 target
 - > Electricity sector has already contributed significantly to CO₂ reductions since 1990
 - Heating and transport sectors have so far fallen short of expectations
- > Reduction in coal-based emissions from current levels essential to attainment of 2020 and 2030 targets (approx. $\frac{1}{3}$ by 2020 and $\frac{2}{3}$ by 2030)
- Decommissioning path to be expected by 2025 for individual large GW volume coal power stations

Coal power station emissions: levels expected with current policies vs. permissible levels¹

(80% scenario²; m t CO₂-equivalent)





Potentially significant policy-driven cuts in coal generation by 2030; initial action expected to be effective for 2020

¹ Sources: Fraunhofer ISI/Öko-Institut: Climate Protection Scenario 2050; BMU: Projection Report 2017

² 80% greenhouse gas reduction relative to 1990



2.2.5 Decarbonisation: Climate protection in the coalition agreement 2018



§

Climate Protection Act

- Coalition partners have agreed to adopt a Climate Protection Act in 2019 to achieve the emission reduction targets for 2030.
- Coalition partners have agreed to adopt a Climate Protection Act in 2019. Aims to reduce the 2020 target gap and to attain the 2030 target. By the end of 2018, each federal ministry will present a program of measures addressing its respective sector targets.



CO₂ pricing

- Intention to strengthen EU-Emission Trading System
- German government will advocate a global CO₂ pricing system at least among the G20 members.



Renewable energy sources

- RE expansion goals raised from 55% to 65% by 2030 (provided that the national grid is developed accordingly)
- Special tenders in 2019 and 2020: 4 GW each for onshore wind and PV; additional expansion of offshore capacity



The coalition agreement shows highs and lows: A clear commitment to emission reduction and expansion of renewable energy sources. However, many problems like the reform of the tax and duties regime remain unresolved. As a consequence, attainment of the 55% reduction target by 2030 is uncertain.



2.2.6 Decarbonisation:

The German Commission on Growth, Structural Change and Employment ("Coal Commission")





Structure

- > Four commission chairmen (two former lignite mining state premiers, one climate economist, one former Chief of the Chancellery)
- > Representatives of eight federal ministries (incl. Economic Affairs and Energy, Environment, Interior, Labour, Transport, Finance)
- > Representatives of six federal states with a connection to lignite
- > 27 additional members from NGOs, research institutions, industrial and business associations etc.



Six key tasks

- 1. Planning of a national step-by-step coal phase-out including all accompanying economic, social and structural measures and an end date for coal-fired power generation in Germany
- 2. Measures to close the gap relative to Germany's 2020 targets (40% reduction of GHG emissions) "as far as possible"
- 3. Measures to meet 2030 targets in the energy sector (e.g. reduce coal-related GHG emissions by roughly 60% compared to today)
- 4. Create new, sustainable employment in by a premature coal phase-out affected regions
- 5. Develop a comprehensive policy mix for economic development, structural change, social coherence & climate protection
- 6. Drive investment to accomplish structural change in affected regions and industries



Time frame

- > October 2018: Initial social and economic policy recommendations for lignite mining regions
- > November 2018: Recommendations for measures in the energy sector and for closing the gap relative to the 2020 targets
- > December 2018: Delivery of final report to the Federal Government, incl. an end date for coal, publication of the final report



2.3 Regulated business grids





Regulatory environment

- > Electricity transmission and distribution grids remain regulated, including in the long term, as a natural monopoly
- Regulatory risks manageable due to the increasing stability of the regulatory framework
- > Revenue cap regulation enables grid revenues to remain independent of consumption fluctuations
- Pressure to be as efficient as possible ongoing due to regulation
- Improved investment conditions for transmission grids on account of changes in the regulatory framework
- The regulatory framework for investment in distribution grids is set to improve in some respects as of the third electricity regulation period (from 2019) due to the reform of the Incentive Regulation Ordinance of mid-2016
- Amendment of Incentive Regulation Ordinance generally leads to no substantial change in the regulatory framework for transmission and distribution grid operators



Challenges for grids in Europe

Three main challenges for grids:

- > Electricity generation is becoming increasingly uneven fluctuations have an impact on grid stability
- Many decentralised electricity generation plants connected to the grid load flow reversals possible in some instances
- Germany as a transit country large proportion of cross-border trading

EnBW's approaches to solutions:

- **TSO:** New transmission lines can bridge the distance between focal point of production and consumption centres; use of HVDC transmission lines and underground cables
- > **DSOs:** Expansion of the grids to integrate renewables, smart expansion of distribution grids, efficient and swift expansion of the distribution grids by municipal partners



2.4 Market development





Generation and trading



Power and gas grids



Customers

- Sustained trend towards renewable energies¹:
 - > 120 GW by 2020
 - > 160 GW by 2030
- Time of profitable operation of conventional power plants in steady decline
- Increasing power generation from gas power plants due to coal-to-gas fuel switching
- Increasing volatility of prices and volumes

- Volatile electricity generation detrimental to grid stability
- Transmission grid expansion accelerated by raising the renewable energy target to 65% by 2030
- Further investment needed for expansion of power distribution grids, e.g. due to the increase in e-mobility
- Conventional power stations increasingly in back-up role
- Accelerating expansion of smart grids
- Moderate expansion of gas grids

- Downturn in demand for electricity and gas due to energy efficiency and rise in demand from electric vehicles and residential heating sector¹ in the future.
- > Renewables for the most part in the hands of non-PSCs²
- Consumer playing an increasingly active role with PV and battery systems and electromobility³
- Landlord-to-tenant electricity supply still uneconomic (inhibited by EEG levy)
- > Number of energy co-operatives has increased sixfold since 2008 from ~150 to 970.
- Rising importance of developing new (digital) business models
- > Technological developments: More diversity, modularity and granularity in the energy system
- > New market participants: More competition and fragmentation of the value chain
- Regulatory framework conditions: Undergoing constant change, rising complexity



Business models of large utilities are changing; accelerating development of renewable energies and grids as well as new services for customers

¹ Depending on regulatory policies

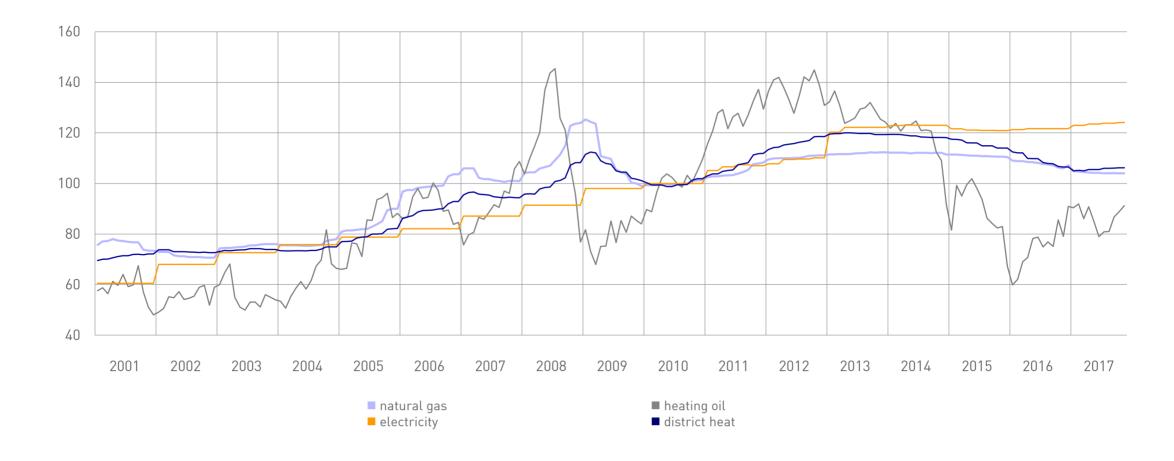
² Power supply companies

³ Rising new registrations compared to previous years



2.5.1 German electricity market: Development of household energy prices

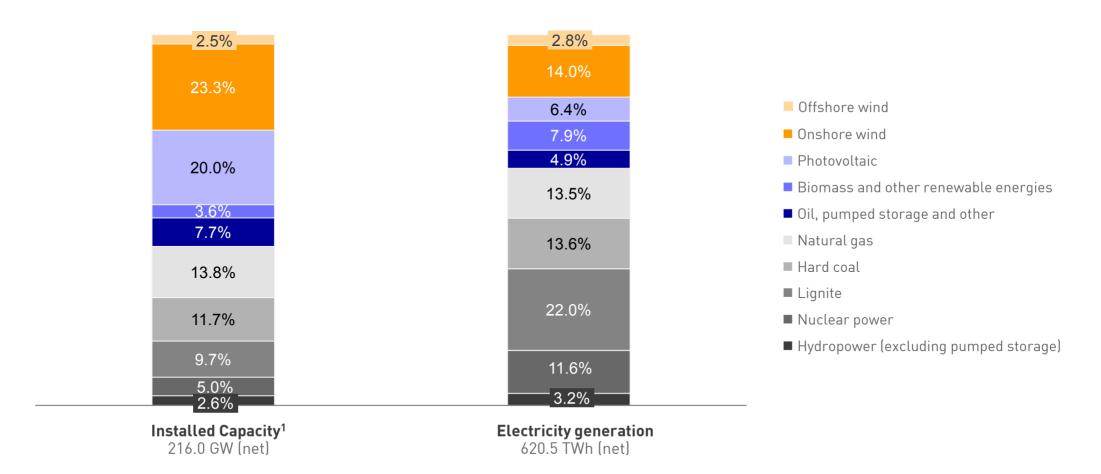






2.5.2 German electricity market: Installed capacity and electricity generation 2017¹





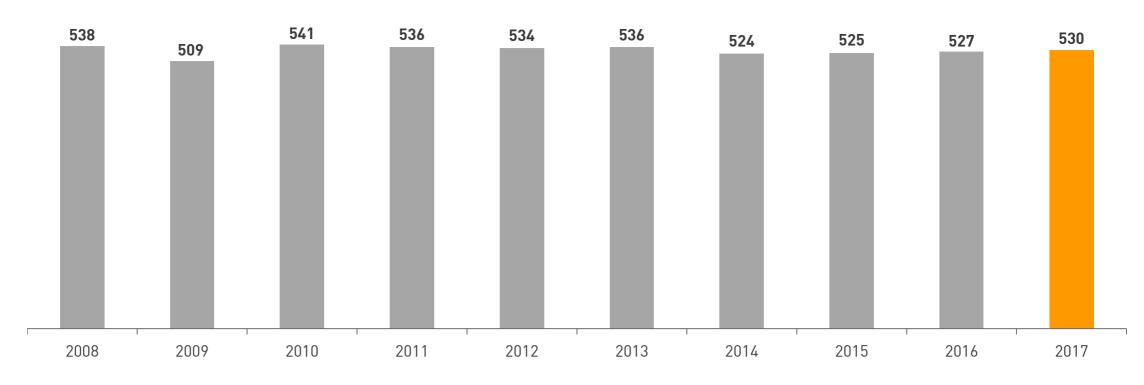


2.5.3 German electricity market: Electricity consumption



Electricity consumption in Germany

in TWh





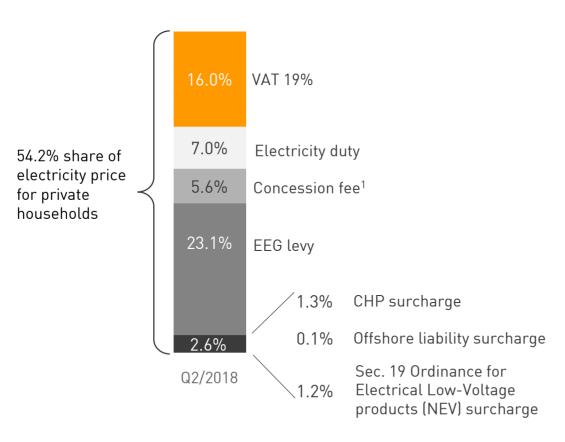
Net electricity consumption stable in the past few years; reduction due to efficiency is compensated by changes in consumption habits and economic growth



2.5.4 German electricity market: Electricity price



Electricity price



Average electricity price for a 3-person household

(Annual consumption of 3,500 kWh) Cents/kWh



Taxes, fees and cost allocation

Network user charges, including metering, billing and metering station operation

■ Procurement and sales

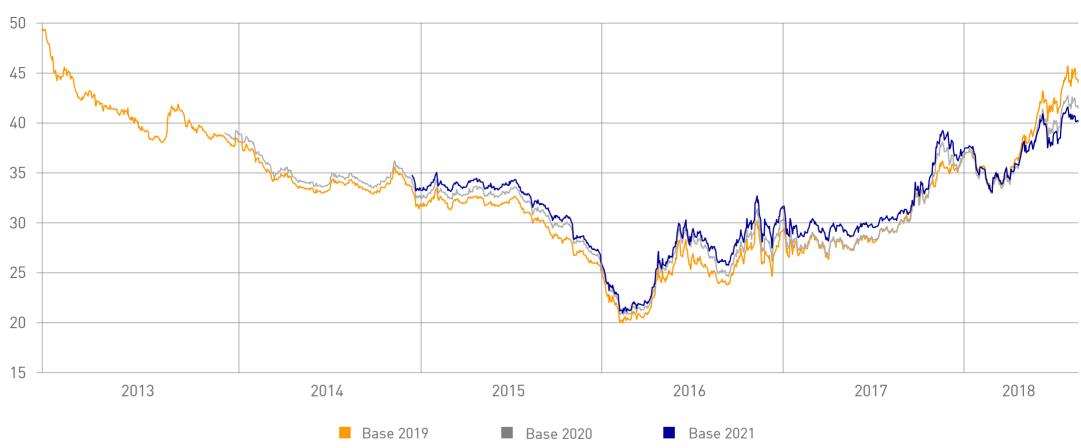


2.5.5 German electricity market: Wholesale forward price



Forward price for baseload electricity in Germany







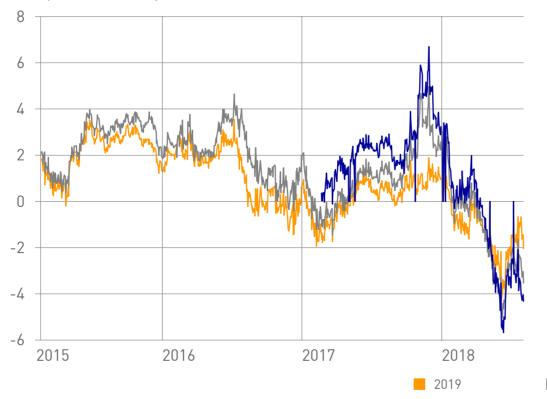
2.5.6 German electricity market: CSS at low levels and negative prices for CDS



Clean-dark-spread base

in €/MWh

Gross margin of a coal-fired power plant (plant efficiency: 36%)



Clean-spark-spread peak

in €/MWh

Gross margin of a gas-fired power plant (plant efficiency: 50%)





2.5.7 German electricity market: Comparison for electricity transmission and distribution grids





Transmission grids 380 kV, 220 kV



Distribution grids ≤ 110 kV

Organisation

- 4 operators: 50Hertz, Amprion, TenneT, TransnetBW
- > Grid length: ~36,600 km
- Grids owned by operators

- > 817 operators
- > Grid length: ~1,808,000 km
- Franchises issued by municipalities
- > Competition for franchises

Tasks

- Ensuring balance between generation and consumption
- > Using balancing power

- > Connecting consumers and local providers
- Recording incidents and troubleshooting

Challenge of the Energiewende

- Transport of wind-generated electricity from northern to southern Germany
- > Building new HVDC transmission lines
- Connecting offshore wind farms

- > Connection of decentralised renewables (e.g. PV, wind)
- > Integration of charging infrastructure for electric cars
- Use of smart grid tech and digitalisation of metering operation (e.g. smart meters)

Unbundling regulations

- Ownership unbundling, independent transmission operator (ITO)
- > Functional and financial unbundling of the grid business and obligation as to non-discriminatory use of grid information



2.5.8 German electricity market: Electricity grids are the backbone of the "Energiewende"



Electricity grids

General

- > The electricity grid business has become a growth business due to the remodelling of the energy market
- > Changes in legislation have simplified reimbursement for costs of investment in grids: e.g. revision of the Incentive Regulation Ordinance (ARegV)

Transmission grid

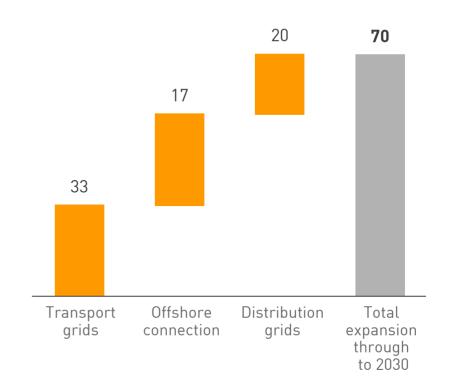
- > Growing geographical imbalance between generation and consumption
- > Expansion of transmission grid primarily construction of high voltage direct current (HVDC) transmission lines and connection of offshore wind farms

Distribution grid

- > Feed-in growing due to local generation
- > Still strong trend back to municipal ownership (large share of concession already extended, however)

Capex for expansion of the German electricity grid through to 2030

in € bn

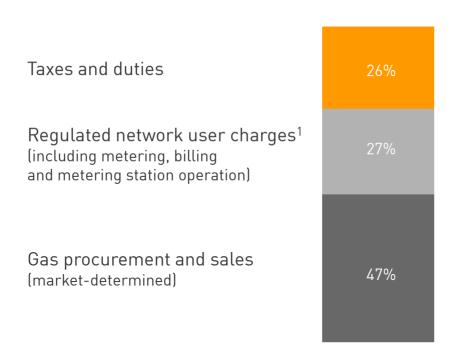




2.6.1 German gas market: Gas price



Gas price

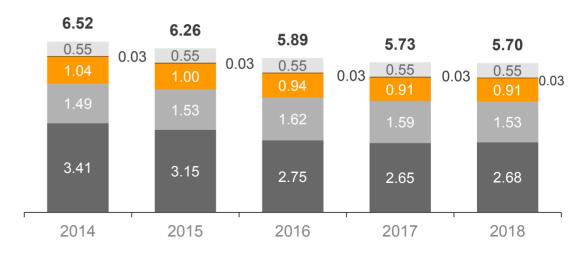


Single-familiy home

Single-family home, gas central heating

including hot water, customer on contract with regional default supplier² (annual consumption 20,000 kWh)

Cents/kWh



- Taxes, fees and cost allocation
- Network user charges, including metering, billing and metering station operation
- Procurement and sales
- Franchise fees

¹ Average net network user charge including charges for metering, metering station operation and billing, subject to large regional variation, source: BDEW, as of 01/2018

² Most heating gas customers are customers on contract with the regional default supplier, with reduced concession fee (0.03 ct/kWh), source: BDEW, 01/2018



2.6.2 German gas market: Front month price development



Front month reference prices¹

in €/MWh





2.6.3 German gas market: Spot price development



Spotmarket reference prices¹

in €/MWh





2.6.4 German gas market: Grids: Comparison for gas transmission and distribution grids





Transmission grids 380 kV, 220 kV



Distribution grids ≤ 110 kV

Organisation

- > 16 grid operators
- > Grid length: ~38,800 km
- Grids owned by operators
- > Two market areas (NetConnect Germany and Gaspool)

- > 696 grid operators
- > Grid length: ~497,000 km
- Franchises issued by municipalities
- Competition for franchises

Tasks

- Transport gas from import to export points (transit) and vice versa (DSOs and industry or other market areas)
- > Connecting consumers and local providers
- Recording incidents and troubleshooting

Challenge of the Energiewende

Long term: potential use of natural gas grid as storage medium for electricity generated from renewables

- Integration of bio natural gas (number of biogas plants increased by 100% in the last 10 years)
- Degree of utilization, if electricity heating and long distance heating increases

Unbundling regulations

- Ownership unbundling, independent transmission operator (ITO)
- > Functional and financial unbundling of the grid business and obligation as to non-discriminatory use of grid information



2.6.5 German gas market: Gas grids are a major element of the "Energiewende"



Gas grids

General

- > Long-term increase in demand for H-gas capacity in Germany:
 - > approx. +17% up to 2020
 - > approx. +38% up to 2025
 - > approx. +47% up to 2030

Transmission grid

Increasing capacity requirements from changes in regulatory environment: Switch in the market from L-gas to H-gas (approx. half of L-gas from NL to be replaced by H-gas from Russia/Norway by 2025)

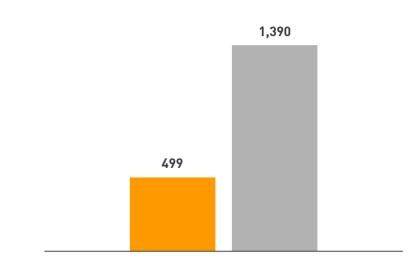
Distribution grid

- > Smaller scale of expansion compared to electricity because "Energiewende" has less pronounced effect on gas market
- Growth potential due to the connection of new communities to the natural gas grid
- > Still strong trend back to municipal ownership

Expansion of the gas transmission grid in Germany through to 2029

■ Compressors in MW

■ Transmission lines in km





Investment of ~ €7.0 bn, of which ~€6.8 bn by 2024

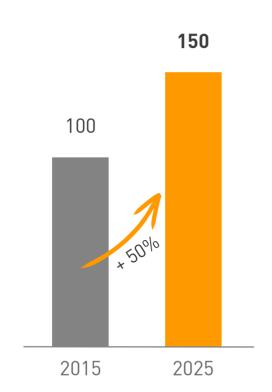


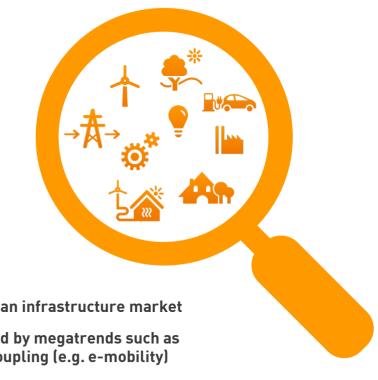
2.7 German infrastructure market



German infrastructure market

in € bn

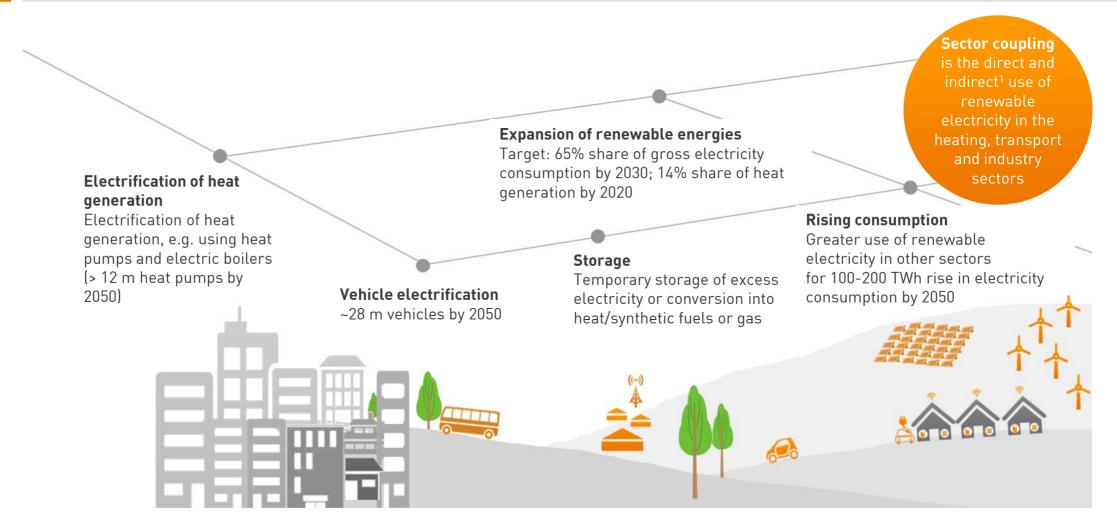




- > Strong growth in German infrastructure market
- Rapid growth supported by megatrends such as digitalisation, sector coupling (e.g. e-mobility) and decarbonisation
- Attractive margins generally attainable with prospects of long-term earnings

2.8 Sector coupling

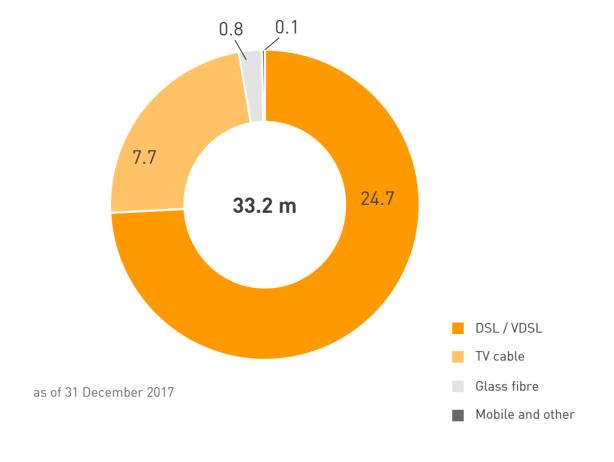




2.9 Broadband



Broadband connections



- German government aims to raise upper limits for public funding and simplify the procedure
- Coalition target: Universal availability of gigabit broadband throughout Germany by 2015
- > €10 bn to €12 bn in additional funding planned for the next few years.





2.10 Competitors: International, national, regional and new competitors



Competitors Companies

Characteristics

Position of EnBW

International



- Broad-based, internationally oriented growth strategy
- Growth especially in renewable energies, grids and sales/solutions

National (DACH region)





- > Stable national position, activities in selected foreign markets
- > Focus on market development, for example in renewable energies, grids, sales and/or solutions

Regional



Verbund

EVN



Energie. Tag für Tag

- Focus on regional markets
- > Main focus of the business activities mostly in area of grids and sales

New



Entry of new market participants increases competition and leads to fragmentation of the value chain

- > EnBW is positioned as an integrated energy company focusing on Germany and selected foreign markets
- > Main growth areas:
- Renewable Energies
- Grids
- Customer Solutions





2.11 The "Energiewende" increases competition



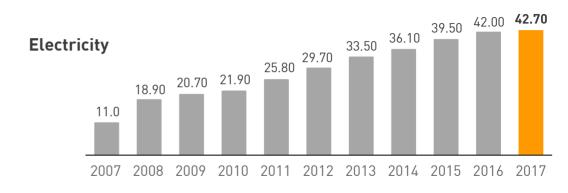
Retail and husiness customers - trends

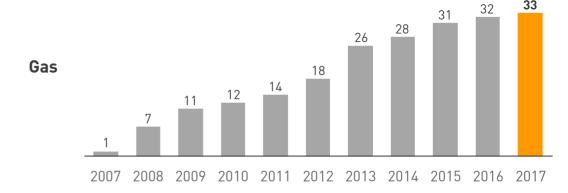
- > Growing price sensitivity¹ and new competitors lead to fiercer competition
- > Lateral entrants and intermediaries are increasingly competing for customers and market shares
- > Commodity business (electricity and gas) is still significant
- Local energy production by customers on the rise: Consumers are becoming prosumers
- Intelligent meters change customer access and are a prerequisite for the development of future energy solutions business
- Increasing energy efficiency (supported by political measures)
- > Local energy solutions offered by utilities, together with new competitors
- > EnBW as a partner for the industry and housing industry and municipalities

¹ Source: Kreutzer Vertriebskanalstudie 2018

- Increasing convergence on the markets due to sector coupling and the electrification of heating and transport (car manufacturers, CHP manufacturers as electricity suppliers and virtual power plant platform operators)
- > To increase the attractiveness of pure energy products, more and more energy suppliers are offering their customers bundled products, hardware products or smart home products in addition to their electricity contracts

Strong competition: Cumulative churn rate of retail customers² in %





² Source: BDEW 2018



2.12 Market potential for energy-related services



Operations

- > Market for energy-related services very fragmented
- > Market volume in Germany €5.5 bn
- Intense competition with new players from the energy industry, and from other industries, continually surging onto the market
- Growing challenges for municipal utilities from rising pressure on costs, the need to meet regulatory requirements and billing technology for the remodelling of the energy market
- High fixed costs mean that the business is heavily influenced by economy of scale
- Cost advantages for large providers
- > Technology shift and economies of scale offer significant growth opportunities in the market, especially in the area of smart metering solutions

Services and key competencies



- > EnBW services cover the complete meter-to-cash value chain. Services can be chosen to suit the individual needs of utility companies
- Services for non-commodity products and solutions, e.g. e-mobility and bundled prosumer products
- > Services either as software-as-a-service only or full-scale business process outsourcing
- > EnBW has proven knowledge in liberalised utility markets and clear positioning as a leading provider of smart metering services



2.13 Development path for energy solutions





Data and analysis

- Metering services
- > Energy audits and management systems
- > Status reports on energy system
- Procurement support for energy efficiency
- Market integration by virtual power plants



Assets, maintenance and operation

Commercial and industrial customers, municipalities and housing sector:

- > Supply and performance contracting
- Energy-efficient building refurbishment
- > General contracting
- Management optimisation of customers' energy generation assets and infrastructure

Residential Customers:

 Integrated modular energy system for residentials (PV, battery, heating, e-mobility, commodity)



E-mobility

- > A growing market
- Integrated solutions for different customer groups (public, commercial, industrial, residential)
- Assets, maintenance and operation of infrastructure
- > Entry and billing systems
- Interconnection with other areas related to the energy system of the future such as PV/storage



2.14.1 Contracting: Media and services from a single source



Growth in German contracting market to 20251





- > Continuous market growth through to 2025 (also aided by energy price increase)
- > Growth opportunities to be exploited, primarily by:
 - > Expanding and adding versatility in the service portfolio
 - > Expanding activities in the role as **infrastructure service provider** (e.g. combining energy supply with charging infrastructure, storage systems, etc.)

- > Custom contracting solutions for industry, housing sector, public sector and commercial/retail/service customers spanning the entire value chain
- > 200 plants under contract
- Core contracting activities complemented with additional services around plant energy efficiency
- Wide range of plant types (including large complex plants, currently up to 100 MWth) for diverse customer needs; focus on heat and/or power (CHP)
- > Targeting German national market
- Main focus in housing sector projects currently on Baden-Württemberg



2.14.2 Contracting: Challenging market environment





General market trends



Customer trends



Provider/product trends

- Increasing importance of distributed energy
- > Slight rise in energy prices in next few years
- > Slight medium-term rise in interest rates
- Increasingly complex regulatory framework, such as building energy efficiency requirements (smart buildings)
- Current customer segments to retain relevance through to 2025 (in terms of value pool) – industry remains biggest segment

- Growing numbers of (complex) distributed energy systems
- Focus on core business: capex optimisation, reduction of operating risks in energy provision
- Increasing demand for outside staff (rather than maintaining in-house resources) for 'special' task area of distributed energy
- Key importance of energy efficiency (energy the biggest cost factor)
- Majority of residential housing stock outdated in terms of energy efficiency; interest in modernisation, with focus on heating and additional services

- Integration of additional services, such as energy management (and energy management systems)
- Increasing use of combination packages and new contracting models, such as landlordto-tenant electricity supply and combining with other services (e.g. direct marketing) and systems (e.g. charging infrastructure)
- Ongoing need for complex custom solutions, with partial standardisation for smallerscale projects and housing sector
- > Expansion of (direct) marketing and local presence; more alliances
- Digitalisation, such as systems monitoring and energy data monitoring



Market and customer trends require contracting providers to adjust their capability portfolios, mostly in terms of media mix, increased versatility and additional services



Agenda 3 – Strategy



1.	EnE	EnBW at a glance			
	>	Key financials Key non-financials			
2.	Env	Environment			
	> > >	Political environment Regulatory environment Markets			
3.	Str	page 38 >>			
	> >	EnBW 2020 Strategy EnBW 2025 Strategy Further strategic aspects: Innovation, Research and Development, Corporate Sustainability, Decarbonisation, Corporate Governance, Compliance, Data Protection			
4.	Seg	page 76 >>			
		Sales			
	>	Grids Renewable Energies			
	>	Generation and Trading			

5.	EnBW's Main Shareholdingspage 114 >> EnergieDienst Holding AG Pražská energetika, a. s. Stadtwerke Düsseldorf Group VNG AG
6.	 Key Financials and Non-financials
7.	Capital Markets
8.	Service

3.1 EnBW 2020 strategy: Corporate strategy



Energiewende. Safe. Hands on.

î

Customer proximity

Engine room of the Energiewende



Where shall we play?

- End customer business for electricity and gas
- Energy-related services/energy efficiency (defined B2C and B2B segments, increasingly for municipal utilities and local communities)
- Trading and origination

- From the region of Baden-Württemberg into Germany, Austria, Switzerland and Turkey
- > Wind (onshore and offshore) and hydropower
- Conventional generation, located mainly in Baden-Württemberg
- > Transmission and distribution grid infrastructure managed from Baden-Württemberg into neighbouring regions (also as service provider)

How can we win?

- System expertise for energy
- Innovative capability and innovation management
- > Strong brand portfolio

- Stringent performance management
- Partnerships and fostering dialogue
- Operational excellence
- > Infrastructure in the energy industry
- > Regulatory management
- Active opportunities for third parties to invest and participate

What should our structure be?

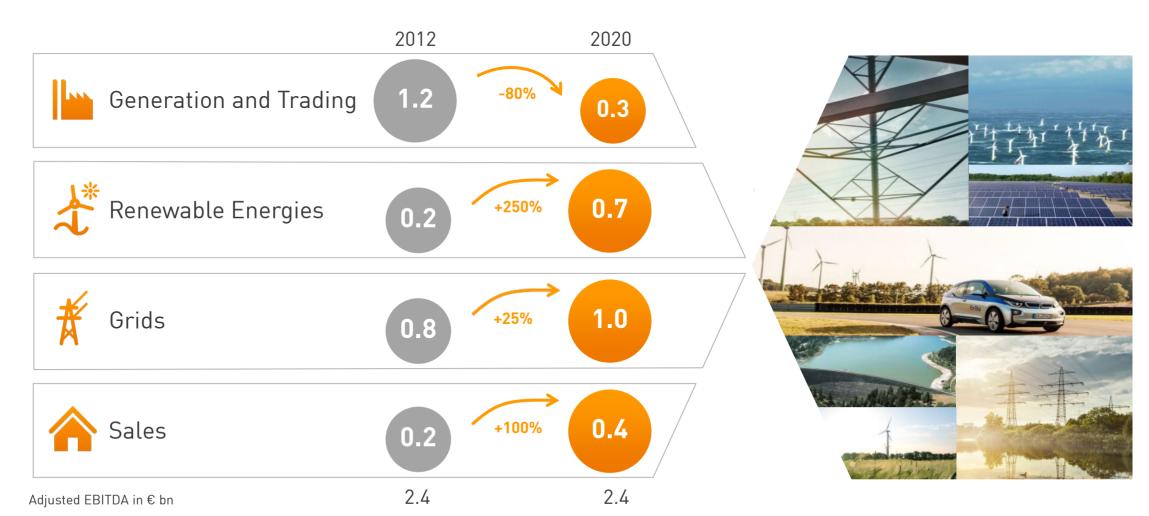
- Building up of an Innovation campus
- Acquisition of/joint ventures with energy-related companies

- Simple and functional management with simple structures, flat hierarchies and lean processes
- > Maximum efficiency
- Stringent cost orientation for defined quality level (target costing)
- Simplicity and standardisation
- Technological development partnerships



3.2 Strategy: Implementing the EnBW 2020 Strategy requires major portfolio transformation

--EnBW





3.3 Strategy: 2018-2020 investment program kept flexible with focus on growth in low-risk businesses

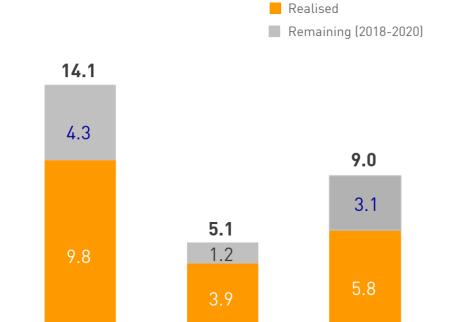
Net

investment



Investment/divestment volume 2012-20201

in € bn



Total

divestment

Investment volume 2018-2020



Total

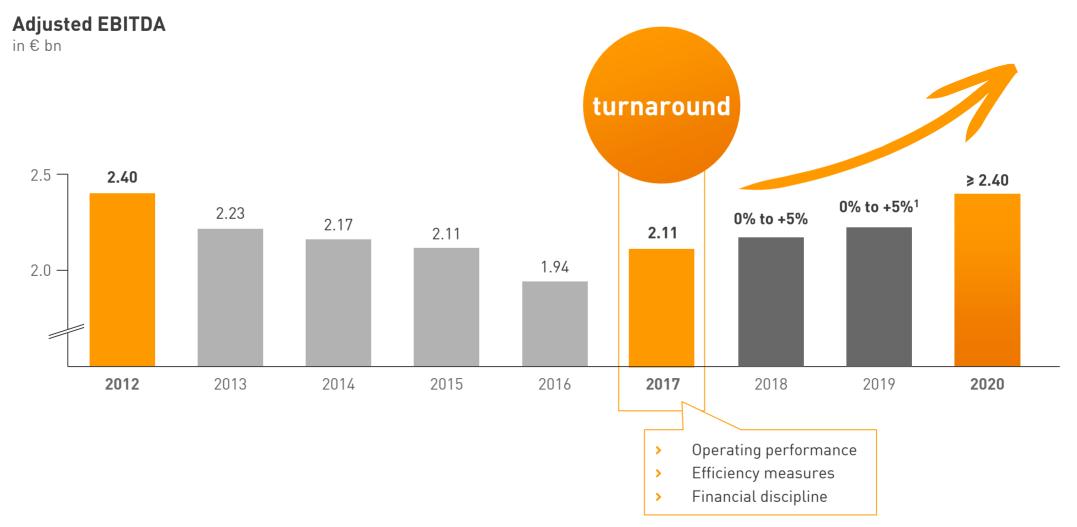
investment

¹ As of 31 December 2017; 2012 as reference year Divergence from 100% possible due to rounding effects



3.4 Strategy: Earnings turnaround in 2017

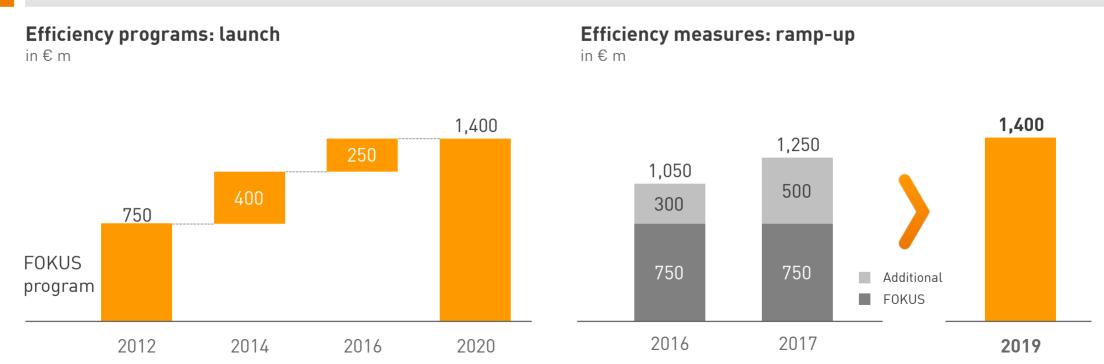






3.5 Strategy: Efficiency targets already to be met by 2019



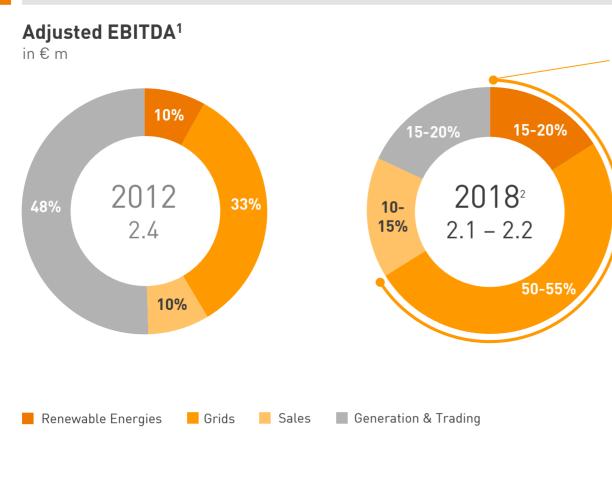


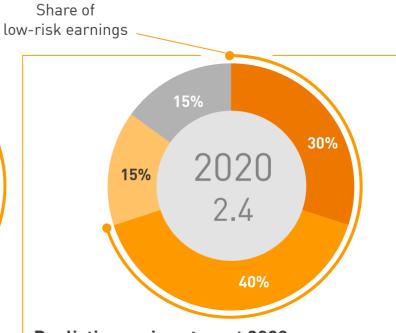
- > Unprofitable power plants incorporated in German power plants network reserve
- > 2016: Exit from unprofitable B2B commodity business
- > 2017–2020: ~€100 m p.a. from 6.3% management and workforce pay cut
- > ~€150 m p.a. contribution from functional units, including holdings such as VNG



3.6 Strategy: Substantial progress in portfolio transformation







Realistic earnings target 2020

- > Expansion of onshore wind from 540 MW to 1,000 MW
- Commissioning of Hohe See and Albatros 609 MW offshore wind farms in 2019
- > Continuous investment in distribution and transmission grids
- Efficiency measures totalling €1.4 bn will already be achieved in 2019

¹ May not add up to 100% due to rounding

² Forecast

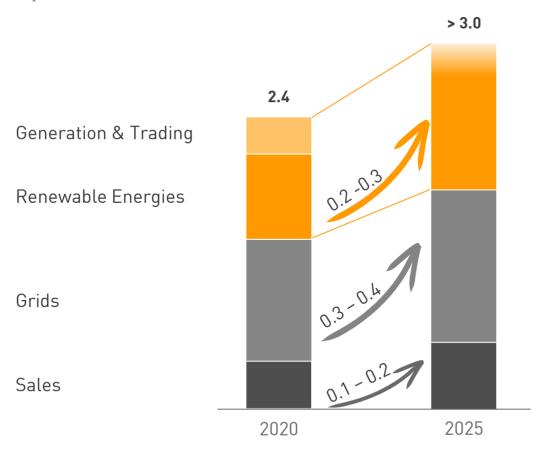


3.7 EnBW 2025 Strategy: From transformation to growth



Development of earnings

Adjusted EBITDA in € bn



1 Sustainable power infrastructure, i.a.

- > Expansion of renewable energies (e.g. onshore and offshore wind to ≥ 3,500 MW)
- > Selective international business activities
- > Active design of decarbonisation

2 System-critical infrastructure, i.a.

- > Profitable growth in the distribution grid (e.g. grid integration of e-mobility and decentralised energy generation)
- > Significant expansion of electricity transmission grid
- Growth of network-related services (grid)

3 Smart infrastructure for customers, i.a.

- > Reorganisation and digitisation of B2C sales as well as transformation to customer infrastructure business
- > Expansion of the solution portfolio (e.g. e-mobility, photovoltaic / battery and heat)
- New infrastructure-related business areas beyond energy (e.g. urban infrastructure and public security)



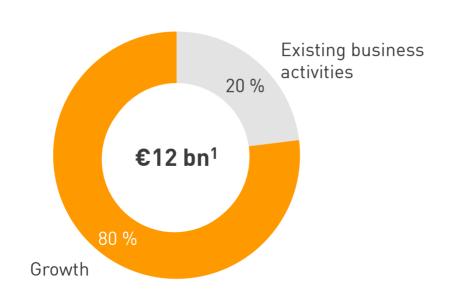
3.8 Strategy:

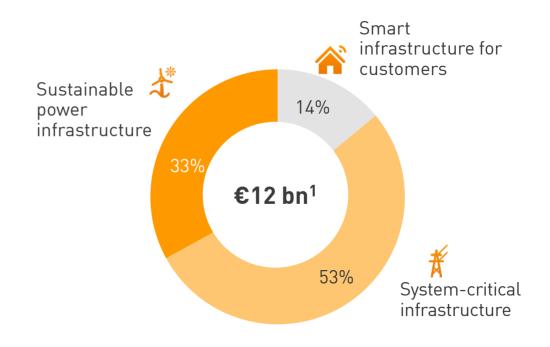
Resulting investment priorities 2021–2025:

80% targeting growth

---EnBW

Allocation of investment spending 2021 - 2025







2025 adjusted EBITDA for the Group > €3 bn



a sustainable and innovative infrastructure partner



3.9.1 Infrastructure market



Main targets



New growth areas beyond energy infrastructure, closely linked to EnBW's existing core competencies

Examples:

- Pool existing activities and products and build integrated, extended portfolio going beyond energy
- Support lock enlargement on rivers (Neckar, others?) for larger scale vessels
- > Launch and build substantial e-mobility activities focused on grid and charging infrastructure, plus (digital) services



Enhanced emphasis on infrastructure aspects in our existing businesses

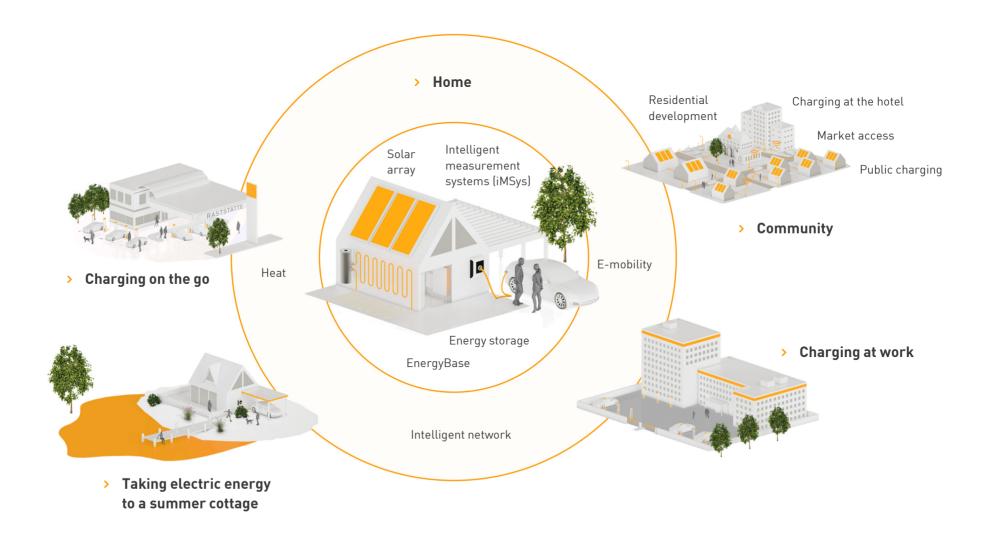
Examples:

- > Expand NetCom's telco and broadband activities into major earnings pillar for EnBW Group
- Devise business models for enhanced public security based on digital solutions and components (e.g. video surveillance)



3.9.2 Infrastructure market: Thinking ahead about energy







3.9.3 Infrastructure market





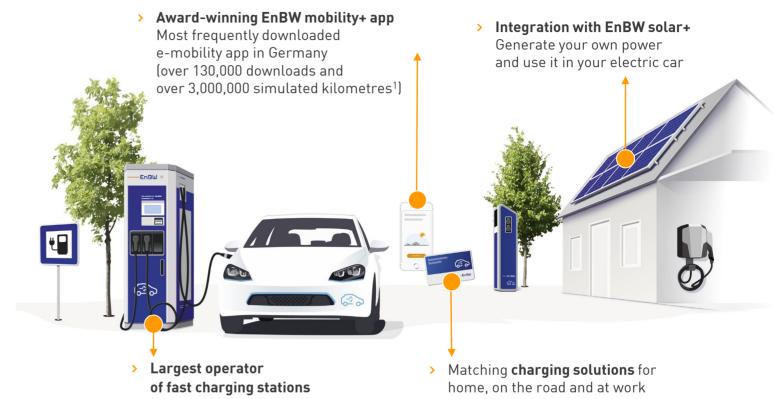








- Largest operator of fast charging stations in Germany (at one in three Tank&Rast service areas)
- Greatest network coverage: Charging at 90% of public fast charging stations in Germany
- Access to over 19,000 charging points in Germany, Austria and Switzerland with attractive pricing (roaming)
- Our target: 1,000 fast charging locations by 2020, including in cities
- Phased expansion:300 kW charging stations with 3 min charging for 100 km



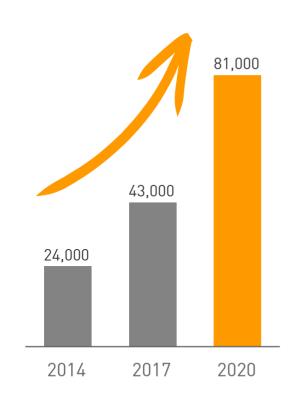


3.10 Broadband: NetCom BW



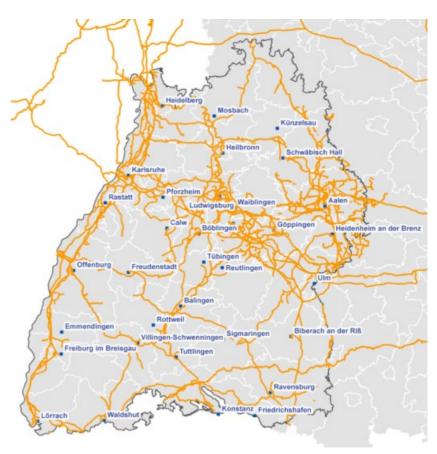


Total customer growth



- Approx. 45,000 customers, of which 6,000 commercial and industrial
- > Around 11,400 km of fibre optic cable
- Second biggest backbone network in Baden-Württemberg
- Serves 42% of municipalities in Baden-Württemberg
- Integration of customer locations outside Baden-Württemberg (in cooperation with GasLINE)
- NetCom BW fibre-optic network as basis for 5G technology (integrating mobile masts)







3.11 Contracting: Capability portfolio and competitors



What do we do?

Regions Germany Costumers Industry Housing sector Public secotr

Product/service portfolio

- > Main focus: Design-build-operate-finance services for distributed energy systems under energy supply/energy performance contracting
- Integrated single-source packages, custom tailored
- Packages linked with additional services such as direct marketing, energy efficiency optimisation, charging infrastructure, photovoltaics/storage systems
- Operation management and efficient system management e.g. optimisation of system operation
- > Additional services such as networks and energy efficiency

Media

> Heat (hot water, steam), refrigeration, CHP power, compressed air, ventilation







Systems/technologies

 CHP plants, boilers, refrigeration systems, gas turbines, compressed air systems, ventilation systems

Who are our competitors?

- > Highly fragmented market with > 500 providers, most without primary focus in terms of customer segments and media; occasional takeovers
- Five main provider groups



- Contracting subsidiaries of major energy groups (e.g. E.ON Connecting Energies, MVV Energy Solutions, Enercity/Danpower)
- > Building systems providers/facility management service providers (e.g. Techem and Engie)
- > Municipal utilities
- > Energy groups' subsidiaries and independent contractors are EnBW's main competitors (similar capability portfolio and national presence)

- > Independent contractors (e.g. Getec)
- > Component manufacturers (e.g. Siemens/Bosch)



Business area continuously built up over 15 years, positioned as established contracting provider in Germany



3.12.1 Digitalisation within EnBW



Acceleration of our digital transformation from 2015

- Optimising established processes
 Goal: future-oriented digital business models
- Technology of digitalisation and driver for the onward development of our core business
- New ways of working, new digital work environments and effective training for managers and employees







Main focuses technology

- > Artificial intelligence
- > Sensors/Internet of Things
- Blockchain
- > Augmented reality

- 14 digital action plans with 180+ initiatives
- 30+ initiatives around AI, blockchain and Internet of Things

- Significant potential planned in by 2020
- About 500 employees actively involved, with around 15 communities



3.12.2 Digitalisation: Transformation of added value



Value chain		Impact	Relevant dimensions	Focuses
	Generation	Low High	Products & processes	Increased availability Predictive maintenance
CORE	Trading			Automated trading Improved forecasting
BUSINESS	☆ ☆ Grids		Technology	Optimisation of maintenance Modern customer interaction
	Sales & ops		People	New products Digital customer experience
NEW BUSINESS	Connected home, e-mobility, VPP, smart cities		& organisation (methods)	Digital business models Interconnection of customers and systems



3.12.3 Digitalisation case study: NETZdigital



Website **Online-Services**

Fewer clicks, better user experience with fewer pages and navigation levels

Optimised for use

Up-to-date

with mobile devices

NETZ corporate design

of online services

More prominent placement





























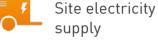


Home electricity supply



35%



















Meter reading

January 17 | January 18

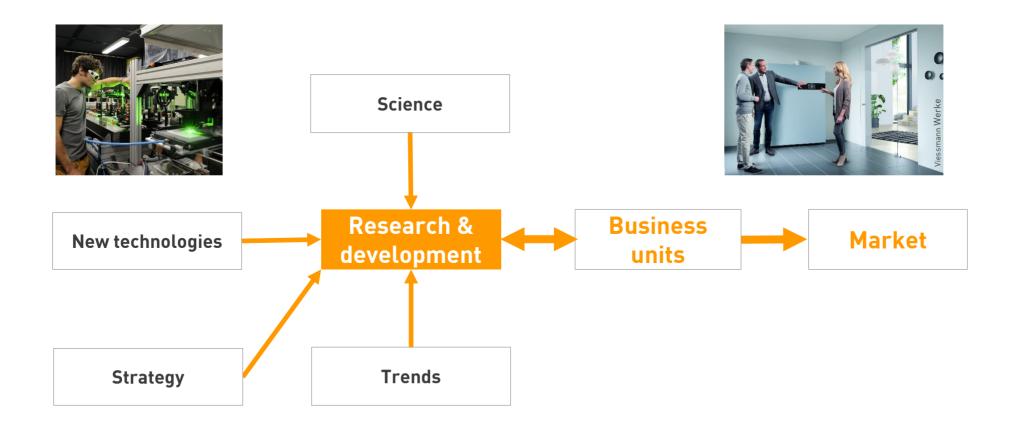


Improvement in online service use rate Target rates ~ 50% Phased approach: Internal first, then external



3.13.1 Research and development: The research process at EnBW







3.13.2 Research and development: Creating know-how for new opportunities



The right skills for future business opportunities

- > Emerging technologies
- > Game-changing technologies
- > New partnerships

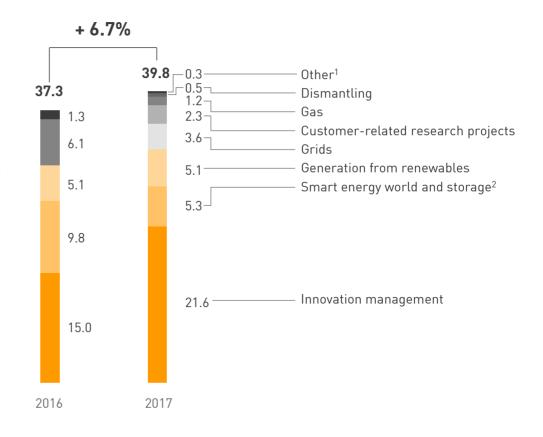
Learning by doing: Pilots and demonstrations with particular focus on

- > Sustainable energy provision e.g. offshore wind, green gases
- Critical infrastructure
- > Smart city technology

> Explore new solutions

- > New skills to succeed for the energy future
- > Win public opinion with attractive solutions
- > Exciting R&D projects to attract future employees

Expenditure on research, development and innovation in \notin m



¹ Also includes conventional generation

² Includes, e.g. electromobility and hydrogen



3.14.1 Innovation: The innovation process at EnBW



Corporate start-ups

> Internal development

Incubation

- > Business model development
- From idea to market validation



Company builder

> Growth and scaling

Innovation









Innovation portfolio

- 1. Connected Home
- 2. Mobility Infrastructure
- 3. Virtual Power Plant
- 4. Urban Infrastructure

Start-ups

Stakes in cooperative ventures

Venturing

- > Professional investor
- > VC method
- > Minority investments



Mergers and acquisitions

- Late stage start-ups
- > Majority investments



3.14.2 Innovation:

Innovation management launches and develops start-up projects through incubation and scaling



Incubation

Idea to market launch

- Company builders

More mature projects – growth and scaling

Pre-Seed

Seed

Startup

First Stage 10

Second Stage 50

16-week incubation programme from October 2018, with 9 EnBW projects at Karlsruhe Innovation Campus.

Focus: Business model development

5 projects in market launch phase. Focus: Market validation

Including two external startup teams in which EnBW has a stake

Binando – IoT-based digital waste management (https://binando.com/)

Vialytics – artificial intelligence in road management (https://www.vialytics.de/)

4 mature projects in growth phase. Focus: Scaling of sales, production and organisation

LIV-T – spin-off; independent IoT joint venture between EnBW and mantro GmbH (https://www.liv-t.com)

Smight – smart urban infrastructure (traffic monitoring, charging stations, environmental sensors, smart streetlights) (https://smight.com)

Energybase – smart energy management system (https://www.energybase.com/)

WTT Campus One – award-winning digital learning platform, spun off in 2017 (https://www.wtt-campusone.com/)



In total, more than 30 start-up projects launched, tested and scaled in last four years.

A number of projects also abandoned.



3.14.3 Innovation: Examples of more mature projects





- WTT CampusONE provides web-based tools and learning management system (LMS) platforms for resource management and information and knowledge sharing.
- Other products include e-learning courses, explanatory videos and compact backgrounders.



- > LIV-T incubates, scales and operates toptier IoT use cases as a white label enterprise solution. Customer-centric, rapid and efficient development using lean startup methodology.
- Generates revenue from hardware sales and operation of use cases via licence agreement with white label customers (software and services).



- > SMIGHT develops solutions for charging, wifi, environmental sensors, security and transport that can be integrated into existing or new urban infrastructures.
- Corresponding product portfolio under development in the areas of technology, services and data management.



- Energybase is a prosumer' energy management system for smart interconnection and optimisation of electricity generation units, appliances and storage.
- Multiple homes can be actively combined into virtual power stations and energy communities, with central management of energy consumption and storage.
- B2B platform approach for manufacturers and utilities.

Spin-off in Ludwigsburg



Internal
Micro Business
Unit
in
Karlsruhe



3.14.4 Innovation: Venture capital investment in innovative start-ups



EnBW New Ventures follows an active portfolio approach

- > Evergreen VC investor with total investment amount of €100 m
- > Direct minority stakes, investment in entrepreneurial founder teams
- Open for syndication in a traditional VC approach



EnBW New Ventures is the open innovation connection between startups and EnBW Group

- > Win-win for both sides, with EnBW New Ventures operating as professional VC investor
- > Start-ups gain access to EnBW's energy market expertise, customers and suppliers of EnBW
- > EnBW benefits from fast innovation cycles and growth options
- > Cooperative approach to foster business with products and services based on innovative business models

Current portfolio



















PV leasing provider – generate and use your own solar power on your rooftop without upfront investment



3.15.1 Corporate Sustainability: Integral part of the strategy



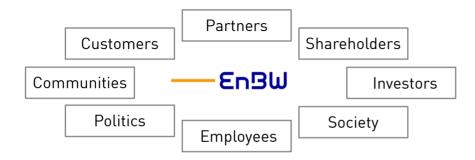


Sustainability at EnBW

> Sustainability dimensions



EnBW stakeholders



Sustainability is integrated in

> Corporate strategy	~
Non-financial top KPIs and targets	~
> Stakeholder management	~
> Risk and opportunity analysis	~
> Annual reporting	~



3.15.2 Corporate Sustainability: Ratings



ISS-oekom

Sustainalytics

Carbon Disclosure Project



2017

В-

Prime status

Major improvements in

- > Products and services
- > Corporate governance and business ethics



2018

73

Outperformer status

Major improvements in

- > Environmental aspects
- > Social aspects



2017



Leadership status

- > Effective initiatives in the field of climate protection
- Transparent reporting on emissions, opportunities and risks of climate change



3.15.3 Corporate Sustainability: Economic, environmental and social performance - Highlights 2017



Dimensions

Activities



- > Repayment of hybrid bond in the amount of €1 bn
- > Expansion of gas business through first-time full consolidation of VNG
- > Start of construction of new district heating plant in Stuttgart-Gaisburg
- > Expansion of charging infrastructure for e-mobility and of broadband business



- > Construction and expansion of 21 onshore wind farms with a total of 204 MW
- Award of contract for He Dreiht 900 MW offshore wind farm in auction
- > Participation in the Task Force on Climate-related Financial Disclosures (TCFD)
- > Stimuli for Diversity funding programme for the protection of amphibian and reptile species



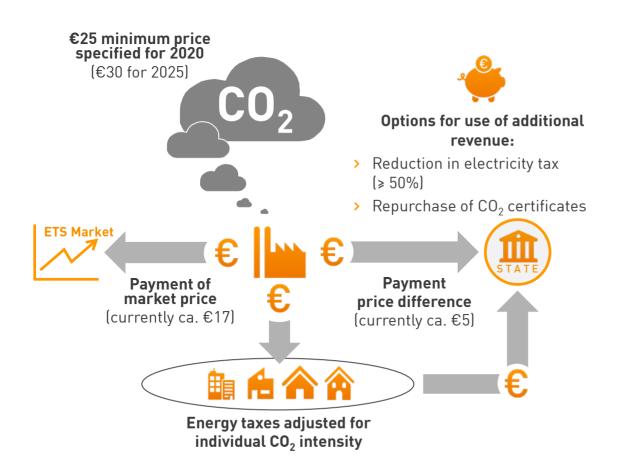
- > "Making it happen" bus with EnBW employees providing support where it is needed
- > Promotion of diversity and inclusion through various measures and events
- Representative random sample surveys for Employee Commitment Index (ECI)
- > Projects and campaigns on occupational safety and health protection



3.16.1 Decarbonisation: Focusing on sustainability, EnBW supports CO₂-reduced generation with a minimum CO₂ price



EnBW's position on minimum CO2 price



Introduction of a national CO₂ target price of €25 from 2020 and €30 from 2025



This would render significant market based CO₂ reductions economically viable – climate-friendly power plants would be allocated more operating hours. At the same time risks for renewable energy investments would be mitigated."

Reduction of electricity tax by at least 50%



- Most of today's electricity and energy taxes have no significant impact on carbon emissions.
- Reduction of the electricity tax facilitated with the additional revenue from the minimum price of CO₂; the natural gas tax can be abolished

Alignment of energy taxes with the ${\rm CO_2}$ intensity of the energy source



- Fundamental reform of the energy tax system: focus on the climate impact of energy sources
- Existing refunds and exemptions remain unaffected



3.16.2 Decarbonisation: Business activities fully geared to attainment of climate targets

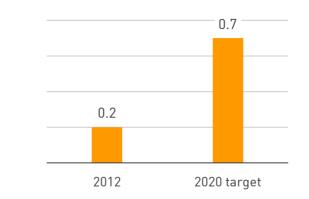


Why is EnBW committed to climate action?

- Low-carbon business areas are key growth markets in the energy sector
- EnBW's strategic goals can be attained with low-carbon activities
- EnBW delivers on its social responsibility for climate action/sustainability

EnBW renewables growth¹

Adjusted EBITDA in € bn



- Onshore wind growth to 1,000 MW by 2020/2,000 MW by 2025
- Offshore wind growth to ≥ 1,500 MW by 2025
- Renewables growth in Turkey to 1,000-1,500 MW by 2025
- Selective internationalisation of business by 2025

35.5%

of household electricity consumption in Baden-Württemberg can theoretically be served by EnBW's renewable energy activities





By means of its energy efficiency networks for industrial customers alone, EnBW has delivered annual energy savings equivalent to

~35,000 households (300 GWh/p.a.)

En BW Factbook 201



3.16.3 Decarbonisation: Climate protection goal



- > EnBW already clearly committed itself to the "Energiewende" in 2013 with its 2020 strategy.

 The central focus here in the medium and long-term is low CO₂ or zero emission electricity generation.
- > The EnBW business model is aligned to the national and international goals for climate protection, such as those defined in the Paris Agreement.
- > Increasing the proportion of renewable energies has already been a key performance indicator in the environment goal dimension for managing the company for many years.
- > In 2016 the key performance indicators in the environment goal dimension have been supplemented by CO_2 intensity. The inclusion of the new key performance indicator CO_2 intensity reflects the special importance of climate change as a social, political and also economic challenge for EnBW.
- > The calculation basis for the key performance indicator CO₂ intensity is the amount of CO₂ emissions from own generation of electricity for the Group, as well as the quantity of electricity generated by the Group, without the contribution made by nuclear power plants.
- > By discounting the electricity generated by nuclear power plants, the performance indicator will not be influenced by the phasing out of nuclear energy in the coming years.



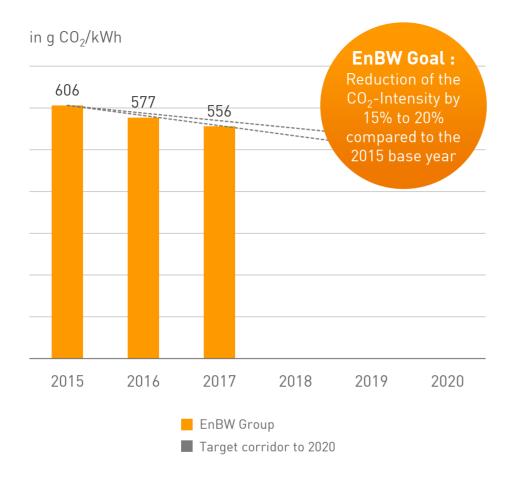
The goal of EnBW is to actively contribute to climate protection by successively reducing the $\rm CO_2$ intensity of its own electricity generation (excluding nuclear power) by 15 to 20% by 2020 compared to 606 g/kWh in the base year 2015.



3.16.4 Decarbonisation: Climate protection: Key performance indicator "CO₂-Intensity"



EnBW CO₂-Intensity

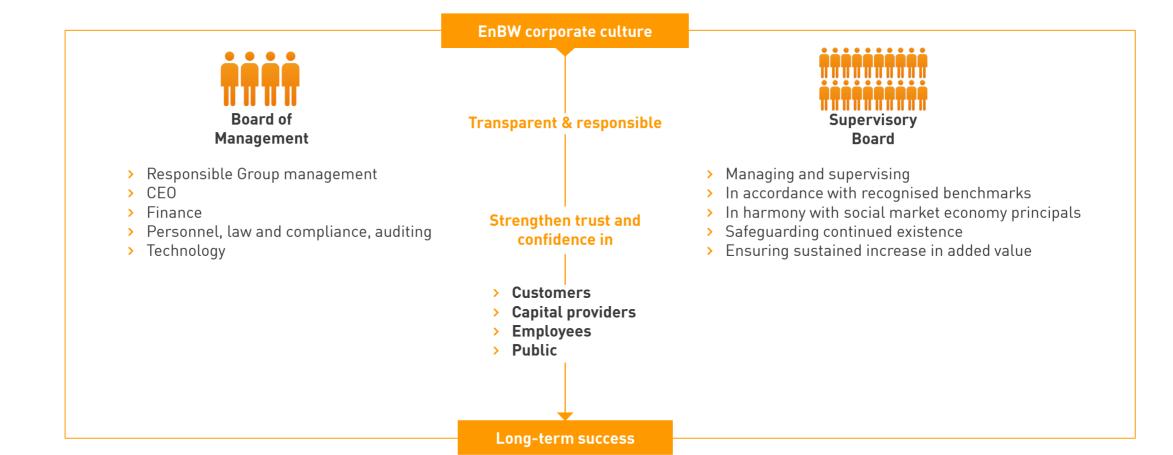


- > The CO₂ intensity of EnBW's own electricity generation excluding nuclear power fell by 3.6% to 556 g/kWh in comparison to the previous year.
- > The fall was due to the increased generation from renewable sources in comparison to 2016 and the simultaneous increase in electricity generation from a more efficient mix of fossil fuel-fired power plants, especially the use of unit RDK 8 at the Rheinhafen Steam Power Plant in Karlsruhe.
- > In 2018, we expect an increase in own electricity generation from renewable energy sources due to further expansion of renewable energies and the increased availability of our highly efficient hard coal power plants such as unit RDK 8.
- We anticipate an overall positive development and expect a reduction in the $\rm CO_2$ intensity by between 10% and 0% in 2018 in comparison to the 2017 reporting year. We expect a further gradual reduction in $\rm CO_2$ intensity in the years ahead.



3.17.1 Corporate Governance: Responsible and transparent management







3.17.2 Corporate Governance: Responsible and transparent management



Board of Management

> 4 members

- > Responsible Group management
- > Four remits
 - > Finance
 - > Personnel, law and compliance
 - Auditing
 - Technology

Supervisory Board



- > Appoints members of Board of Management
- Advises them on management of the company
- Discusses business performance, planning and corporate strategy together with the Board of Management at regular intervals and ratifies the annual financial statements
- Always involved in decisions of fundamental importance to the company
- Legal transactions and measures subject to the approval of the Supervisory Board are defined in its rules of procedure

Annual General Meeting



- Shareholders exercise their rights with regard to company matters at the Annual General Meeting
- The Annual General Meeting passes resolutions on the discharge of Board of Management and Supervisory Board members, the appropriation of earnings and selection of the auditor
- Resolutions of the Annual General Meeting only require a simple majority of votes in most cases.
- > Fach bearer share carries one vote.



3.17.3 Corporate Governance: German Corporate Governance Code





German Corporate Governance Code

- EnBW is in compliance with the recommendations of the German Corporate Governance Code, as amended on 7. February 2017: https://www.enbw.com/enbw_com/investoren/investors_docs/corporate_governance_1/german-corporate-governance-code-of-7-february-2017.pdf
- The recent Declaration of Compliance pursuant to section 161 German Stock Corporations Act (AktG), dated 7. December 2017, and the declarations from previous years are published at https://www.enbw.com/privacy-policy/.



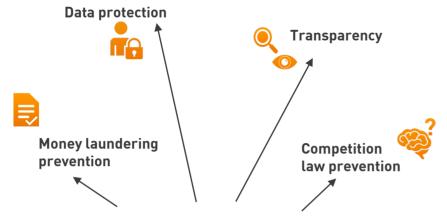
Further information

- Board of Management: https://www.enbw.com/company/the-group/aboutus/executive-board/index.html
- > Supervisory Board: https://www.enbw.com/company/the-group/aboutus/supervisory-board/index_en.html
- > German Corporate Governance Code: <u>https://www.enbw.com/company/investors/corporate-governance-governance-code/</u>
- Declaration of compliance 2017: https://www.enbw.com/enbw_com/downloadcenter/ corporate-governance/declaration-of-compliance-2017.pdf
- Articles of Association (Dated 20 March 2018): https://www.enbw.com/company/investors/corporate-governance/articles-of-association/

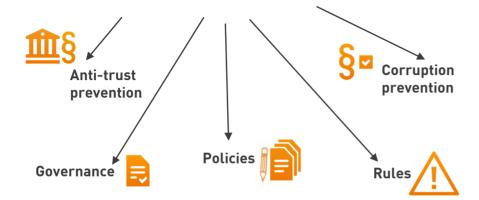


3.18.1 Corporate Governance: Compliance and Data protection





Compliance Scope and Focus



- > The Compliance Management System, implemented throughout the Group, serves to minimise risks and avoid liability issues and a loss of reputation. It focuses on company and sector-specific risks and priorities and encompasses all controlled companies with employees in the EnBW Group.
- > Tools used by Compliance:
 - > Training/workshops
 - > Code of Conduct
 - > Focus on culture with a view to the most recent compliance incidents in the German economy
 - > Detection
 - > Annual Compliance Risk Assessment
 - > Ombudsman
- These are deemed appropriate for the detection of the risk that there could be a significant violation of the regulations applicable in these areas in good time and with a sufficient degree of certainty, as well as for the prevention of such violations. The effectiveness of the corruption prevention and antitrust law areas of the system have been tested in accordance with the IDW PS 980 testing standard and reaffirmed.

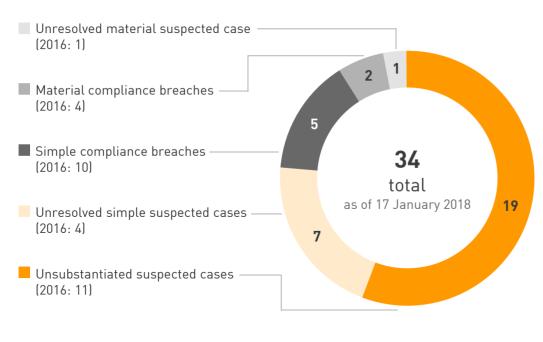


3.18.2 Corporate Governance: Compliance and privicy protection



Number of compliance breaches and suspected cases¹

Number of participants in compliance training events¹



as of 17 January 2018



Management personnel



3.19.1 Data Protection Philosophy



Data Protection Model



The importance of protecting customers' and employees' personal data has been self-evident to EnBW for many decades. Data protection is also key to maintaining the trust and confidence that customers place in us every day.

New business models (digital/smart solutions) build on that trust.

The entry into force of the General Data Protection Regulation (GDPR) raised the importance of data protection issues to a new level. Our aim at EnBW is full compliance in data protection at all times:





"Trust keeper" of the data which is owned by the subject.



3.19.2 Data protection in the value chain





Data protection compliance cycle

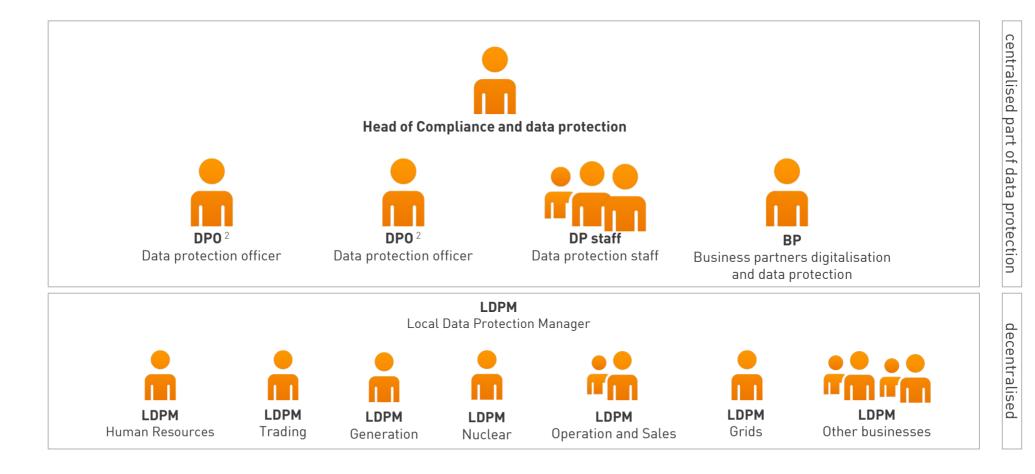
This has so far involved:

- > Restructuring and assessing some 400 processing operations
- > 120 suppliers undergoing data protection assessment
- Revision of all processing operations in customer service to incorporate the enhanced rights of data subjects
- > **Training** of over **8,000 employees** (including 450 managerial employees + 1026 employees via on-site training) in application of the new legal framework.
- The head office data protection team processing over 2,000 inhouse advice requests in 2017 and 2018, 400 further planning
- > 9 Board Meetings, 20 team member from 25 depart
- More than 15 practical application aids being made centrally available to 20,000 employees for assistance in their day-to-day work





3.19.3 Organisation of data protection at EnBW¹



74

¹ As of 1. October 2018

² Data Protection Officer under Article 37-39 of the GDPR



Agenda 4 – Segments



1.	EnB	BW at a glance _I	page 3 >>
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Contact details



4.1 Segment overview





Sales

> Adjusted EBITDA 2017: €300.0 m

Employees: 3,331

> Activities/products: Sale of electricity, gas, energy-related services and energy industry billing services; energy efficiency consultancy; cooperation with local authorities; collaboration with public utilities



Grids

> Adjusted EBITDA 2017: €1,045.9 m

Employees: 8,858

Activities/products: Transport and distribution of electricity and gas; provision of grid-related services; water supply; guaranteeing the security of supply and system stability



Renewable Energies

> Adjusted EBITDA 2017: €331.7 m

Employees: 1,050

> Activities/products: Project development and management, construction and operation of renewable energy power plants



Generation and Trading

> Adjusted EBITDA 2017: €377.1 m

Employees: 5,457

> Activities/products: Advisory services, construction, operation and decommissioning/dismantling of thermal generation plants; electricity and gas trading; risk management of market-related risks; development of gas midstream business, district heating; waste management/environmental services; provision of system services; direct marketing of renewable energy power plants

4.2 EnBW's market presence¹



NaturEnergie



- EnBW Ostwürttemberg DonauRies AG. Ellwangen
- Erdaas Südwest GmbH. Karlsruhe
- GasVersorgung Süddeutschland GmbH. Stuttgart
- NaturEnergie+ Deutschland AG, Mühlacker
- NetCom BW GmbH. Ellwangen
- Netze BW GmbH. Stuttgart
- terranets bw GmbH. Stuttgart
- TransnetBW GmbH. Stuttgart
- ZEAG Energie AG, Heilbronn













Energiedienst AG. Rheinfelden

N BORUSAN

Borusan EnBW Enerji yatırımları ve Üretim A.S⁴



Energiedienst Holding AG, Laufenburg

Turkey

¹ The full list of shareholdings can be found in the notes to the consolidated financial statements under "(36) Additional disclosures": https://www.enbw.com/enbw_com/downloadcenter/annual-reports/enbw-financial-statements-group-2017.pdf

² Full consolidation 2017.

Directly and indirectly held shares.
 Not fully consolidated, accounted for using the equity method.

4.3 Sales: Multi-brand approach (1/2)





> EnBW as premium energy brand with focus on the Baden-Württemberg mass market and public authorities. Throughout Germany for energy solutions such as e-mobility and contracting. Following the acquisition of SENEC in January 2018, EnBW now offers the full range of decentralised solutions for the German Energiewende.



> Yello is EnBW's single brand for the German national mass market, providing a viable alternative for every customer. In line with their new slogan, "Mehr als Du denkst", Yello offers more than just commodity service.



> Natur Energie Plus is the national brand for environmentally aware households.



> NaturEnergie is Energiedienst's main brand and one of Germany's first green energy brands. It is regional, green and 100% hydropower.



GasVersorgung Süddeutschland - partner to municipal utilities, regional energy suppliers and industry in Germany and beyond. In addition to gas and electricity, GVS provides a broad spectrum of energy-related services. Focuses include online business via platform E-Point.

4.3 Sales: Multi-brand approach (2/2)





> PRE as premium energy brand with focus on Prague mass market for electricity and energy solutions.



Stadtwerke Düsseldorf as a multipurpose supply and disposal company with business activities in the areas energy, water, contracting and waste management.



> VNG is the corporate brand of the VNG Group and stands for a strong group of more than 20 independent companies with more than 1,200 employees, 60 years of gas expertise and a broad-based future-oriented service portfolio in the gas and gas infrastructure sectors.



> goldgas GmbH is one of the leading energy suppliers in Germany. The company from Eschborn supplies gas and electricity to private households, commercial customers, housing organisations, major industrial customers and resellers. In 2008, goldgas was the first independent gas supplier in Germany. In 2012, the company added electric power and eco-power to its portfolio.

4.4 Sales: Market feedback – Brand awareness





- > Full-line service provider delivering quality and inventiveness made in Baden-Württemberg: electricity, gas, water, energy/environmental services, district/local heating and connected energy solutions (e.g. e-mobility)
- > Fair prices, excellent service and customer participation
- > Selected special products with added value
- > Retail/business/industrial customers and municipalities/municipal utilities

Baden-Württemberg

Q1/2018

96%



- > Retail customers in Germany
- > Attractive pricing
- > Focus on online sales and service
- > Electricity and gas for standard service
- > Innovative product bundles
- > Selected special products only in cooperation

87%

National

Q1/2018



- > Nationwide sustainability brand
- > Ecological products
- > Focus on people
- > Enhanced brand awareness in planning

7%

National

Q1/2018



4.5 Sales: Electricity and gas sales





EnBW Group: Electricity and gas sales

in bn kWh

	2017	2016	Variance in %
Electricity sales	122.0	114.8	6.3
Retail and commercial customers (B2C)	15.0	15.0	0.0
Business and industrial customers (B2B)	23.7	28.2	-16.0
Trade	83.3	71.6	16.3

	2017	2016	Variance in %
Gas sales	250.1	139.1	79.8
Retail and commercial customers (B2C)	14.4	10.8	33.3
Business and industrial customers (B2B)	93.7	41.5	125.8
Trade	142.0	86.8	63.6



4.6.1 E-mobility: Overview

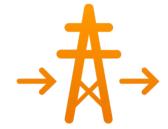




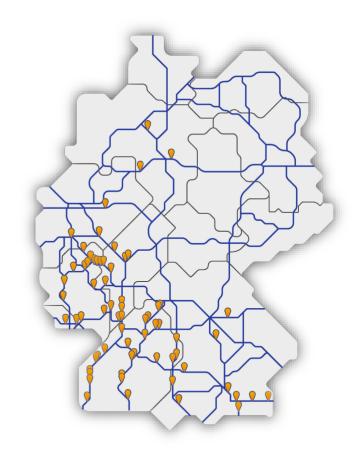
>600 AC locations







All locations high-performance with up to 150 kW per DC charging point.



4.6.2 E-mobility: References



High-power charging



Project scope:

- 34 T&R service stations in Baden-Württemberg each provided with two charging stations (50kW DC)
- Follow-up contract to provide 117 additional T&R service stations throughout Germany with one charging station each (50kW DC)
- High-capacity-ready locations for upgrade path to 150 kW per charging station

Fast charging infrastructure and digital services



Benefits of providing service stations with rapid charging stations

- > Enhances the attractiveness of service stations
- > Rapid charging station with two charging points
- > Flexible settings (50 kW or 150 kW, CCS, CHAdeMO, Type 2)

Project scope:



- An initial 100 OMV filling stations secured in Germany (focus on Baden-Württemberg, Hesse and Bavaria)
- Starting with two charging points per filling station, scalable up to eight charging points by contractual agreement
- Flexible technical setup (CCS and CHAdeMO, buffer storage with variable capacity)

Additional digital services:

- Proximity marketing: provision of mobile content and mobile advertising
- Smart couponing system:
 Free charging vouchers
 upwards of a specific purchase value
- Partner filling stations included in route planning using EnBW mobility+







4.6.3 E-mobility: Campaigns



——E⊓BW E-mobility employee campaign



- > 180 BMW i3s handed to EnBW employees in June 2018
- > Employees gain first-hand experience of e-mobility
- > Offer sold out on first day



E-mobility customer campaign



- > Test offer for customers
- yello-branded BMW i3 for 12 months on lease (from € 249) per month
- > Over 450 applicants
- > Lease offer, optionally for 12 or 24 months
- > Cars handed to customers in March/April 2018



4.7.1 Local authorities and municipal utilities: Activity areas





Shaping and managing great places to live and do business



Needs-driven alliances with municipal utilities across Baden-Württemberg



Efficiently operating and managing municipal infrastructure

With the necessary big picture view across all areas (communication, energy, mobility, the economy and public life) and a clear understanding of the related current and future challenges for municipal authorities, we advise and support municipalities in Baden-Württemberg and beyond with our products and services. Our priority is to deliver a custom-tailored, future-ready integrated solution for each municipal customer. > Joint entities benefit from EnBW's longstanding experience and proven full range of services for almost every business process. We have a broad capability portfolio, ranging from technical network operation to IT solutions and from billing to smart energy solutions.

> With over 700 electricity and gas concessions in Baden-Württemberg and the operation of additional infrastructure such as water and broadband networks, longstanding experience and a proven team with local ties throughout the region, EnBW is a highly effective partner to municipalities in Baden-Württemberg.



4.7.2 Local authorities and municipal utilities: Municipal alliances in Baden Württemberg





Municipal infrastructure: efficient and reliable

- > Netze BW GmbH, a wholly-owned subsidiary of EnBW and the biggest electricity, gas and water network group in Baden-Württemberg, delivers secure, reliable, efficient and cost-effective utility supply and customer-friendly network service.
- > In electricity and gas grids, we serve over 700 municipalities as direct concession holder and partner with over 150 further towns and communities in joint entities.
- > Electricity and gas concessions are our main focus, but we are also strong in water supply and broadband infrastructure rollout the latter with very ambitious growth targets.
- > With research activities, state-of-the-art technology and our highly dedicated workforce, we make a major contribution in terms of security of supply and future-ready energy infrastructure, especially in rural regions.

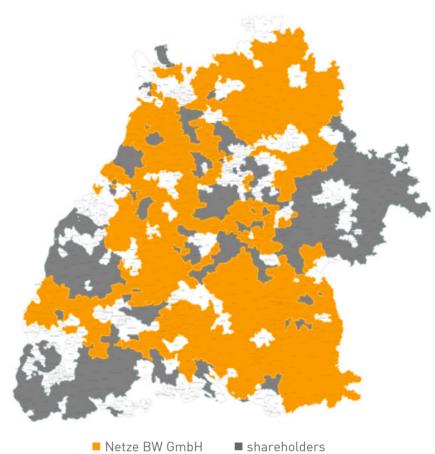
Electricity and gas concessions in Baden-Württemberg (NETZE BW)



Electricity grid customers



Households supplied with gas





4.7.3 Local authorities and municipal utilities



Shaping and managing great places to live and do business in tomorrow's communities

- We provide a broad portfolio of products and services for shaping great places to live and do business across the region, for all municipal authorities in Baden-Württemberg. With a strong regional footprint, we work closely with municipal and district councils to deliver tailored solutions.
- Our portfolio addresses the key action areas of the future for all communities
 - > From conventional design-build-operate services for broadband, electricity, gas and district heating networks ...
 - > ... to smart energy and mobility solutions, including for entire neighbourhoods
 - ... and solutions for the public digital space and for public safety
- > This enables us to deliver a custom-tailored, future-ready integrated solution for every community.

Mobility

Buildings/precincts

Infrastructure

Safety/security

Urban quality

Smart energy solutions



4.7.4 Local authorities and municipal utilities: Investment portfolio





In numerous joint entities with municipal authorities and utilities we are a driving force in alliances across Baden-Württemberg

- > As a minority shareholder in over 100 joint entities, EnBW has deep regional ties throughout Baden-Württemberg.
- > Business development in these utilities is shaped by the complementary perspectives and capabilities of their owners (municipal authorities and EnBW).
- > With both established capabilities (such as network and operating services) and new business areas (such as broadband and electric mobility), EnBW contributes substantially to the business development and ensuring the long-term viability of utilities and therefore of the entire region.

EnBW investment portfolio in Baden-Württemberg









4.8.1 Grids: Electricity and gas grids constitute EnBW's core business



EnBW grid regions



EnBW has a thorough grasp of the grid business

- > EnBW and its predecessor companies have been in the grid business for more than 100 years
- > Security of supply is our highest priority which is why we employ modern and tested technologies and maintain an extensive network of service centres
- Efficiency benchmark from most recent regulatory period certifies generally best results for EnBW grids
- > High regulatory competence/market competence

Grid business has stabilising effect on portfolio

- > Electricity and gas grids are subject to regulation
- > Stabilising risk/return mix with stable cash flows

151,600

Overall length

4.8.2 Grids: Electricity grids

152,500

2017	2016
2,200	2,100
1,000	1,100
8,600	8,600
45,100	46,500
94,200	94,300
	8,600 45,100



¹The slight decrease in the length of the distribution grid is mainly attributable to concession agreements not being renewed with some municipalities



4.8.3 Grids: Expansion of transmission grid to ensure security of supply



Grid section Scheduled completion

AC grid reinforcement

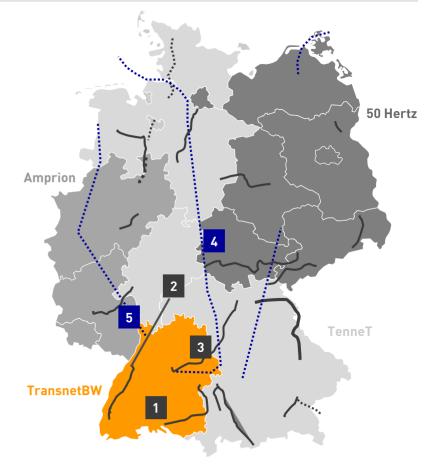
1 for Rhine river area in Baden	119 km	2023
2 for north Baden-Württemberg	142 km	2023
3 for north east Baden-Württemberg	158 / + 56 km	2022 / 2030

DC expansion

4 in corridor C "SuedLink" 4 GW corridor	700 km ¹	2025	
5 in corridor A "Ultranet" 2 GW corridor EnBW contribution: converter, power lines in Baden-Württemberg	40 km	2023	



Investment up to 2025: around €5 bn



...... New construction (DC)

····· New construction (AC)

— Grid reinforcement (AC)

4.8.4 Grids: Investing in distribution grid to integrate renewables and electric cars whilst securing high quality supply



Challenges and activities

Challenges of the distribution grid in Baden-Württemberg ...

- > Wide use of PV in the grid area
- > High expansion targets for wind power
- > Increased emergence of electric cars

... necessitate grid expansion using smart technologies (e.g. controllable local grid station, current peaks storage, etc.)

In addition to expansion of the distribution grids, EnBW is investigating smart distribution grids together with partners in several "grid laboratories".

Through to 2025, investment of ~€2.5 bn necessary to develop the electricity

distribution grid infrastructure in Baden-

Württemberg

EnBW grid laboratories and grid innovations

Grid-lab electric fleets



Intelligent load management for electric vehicles

Grid-lab Freiamt



Further development of innovative equipment

Grid-lab Niederstetten



Local grid intelligence

Grid-lab Sonderbuch



Integration of renewables in low-voltage grid

Grid-lab Boxberg and Stockach



Pilot tests to avoid grid overload

Bio-oil transformers



Pilot project with 100 transformers in real grid operation

grid-control



Crafting effective ideas for a future-oriented grid



4.8.5 Grids: Gas grids

<u> </u>

EnBW Group's gas grids

in km

2017 2016

Long-distance transmission grid

High pressure

8,900 2,000

Distribution grid

High pressure

Low pressure

2,500 10,800 2,200 7,900

Medium pressure

5,200

4,500

Overall length

27,400

16,600





4.9.1 EnBW Group in 2017: Generation and portfolio



	Generation portfolio		Own generation	
	2017 in Mw	share in %	2017 in GWh	share in %
Denoviable energies				
Renewable energies	3,381	26	8,290	17
Run-of-river	1,034	8	5,012	10
Storage/pumped storage (using natural flow of water)	1,327	10	946	2
Wind onshore	540	4	661	1
Wind offshore	336	3	1,416	3
Other	144	1	255	1
Thermal power plants	9,673	74	41,904	83
Lignite	875	7	6,027	12
Hard coal	3,523	27	12,977	26
Gas	1,448	11	3,436	7
Other	349	3	211	-
Pumped storage (not using natural flow of water)	545	4	1,721	3
Nuclear	2,933	22	17,532	35
Total	13,054	100%	50,194	100



4.9.2 Thermal power plants in 2017¹



Conventional

in MW

Düsseldorf1,246Lippendorf875Heilbronn778Altbach/Deizisau589Mannheim546Rostock259Walsum250Stuttgart211Walheim136	Karlsruhe	1,351
Heilbronn778Altbach/Deizisau589Mannheim546Rostock259Walsum250Stuttgart211	Düsseldorf	1,246
Altbach/Deizisau 589 Mannheim 546 Rostock 259 Walsum 250 Stuttgart 211	Lippendorf	875
Mannheim546Rostock259Walsum250Stuttgart211	Heilbronn	778
Rostock259Walsum250Stuttgart211	Altbach/Deizisau	589
Walsum 250 Stuttgart 211	Mannheim	546
Stuttgart 211	Rostock	259
	Walsum	250
Walheim 136	Stuttgart	211
	Walheim	136



Nuclear

Philippsburg	1,402
Neckarwestheim	1,096
Fessenheim, Cattenom (France)	



Grid reserve power plants²

Marbach	426
Heilbronn	250
Walheim	244
Karlsruhe	353
Altbach	433







¹ Major power plants, incl. major changes in 2018 ² Decommissioning of HLB 5/6 , MAR DT III, MAR GT III, WAL1/2, RDK4s and ALT HKW1 has been announced; continued temporary operation due to system relevance



4.9.3 Hydropower plants in 2017¹







Rhine power plants	560	Schluchsee power plants	870
Neckar, Donau, Murg, Nagold, Enz, Glatt, Jagst, Kocher, Argen	159	Vorarlberger Illwerke	1.049
Iller power plants	51	Glems	90
EnAlpin	271	Rudolf-Fettweis-Werk Forbach	43







4.10.1 Offshore wind: Portfolio and project pipeline





Construction

□ Hamburg

In operation

Development stage



4.10.2 Offshore wind: Windfarms in operation



	EnBW Baltic 1	EnBW Baltic 2			
Country	Germany	Germany			
Technology	Offshore Wind	Offshore Wind			
Type of turbine	21 x Siemens SWT 2.3-93	80 x Siemens SWT 3.6-120			
Total capacity	48.3 MW	288 MW			
Shareholders	50.1 % EnBW ~49.9 % 19 municipal utilities	50.1 % EnBW ~49.9 % Macquarie, PGGM & ÄvWL			
Commissioned	April 2011	September 2015			
Feed-in tariff	EEG 2009	EEG 2012			



4.10.3 Offshore wind: Offshore windfarms under construction



	EnBW Hohe See	EnBW Albatros			
Country	Germany	Germany			
Technology	Offshore Wind	Offshore Wind			
Type of turbine	71 x Siemens SWT 7.0-154	16 x Siemens SWT 7.0-154			
Total capacity	497 MW	112 MW			
Shareholders	50.1 % EnBW ~49.9 % Enbridge Inc.	50.1 % EnBW ~49.9 % Enbridge Inc.			
Commissioning	2019	2019			
Feed-in tariff	EEG 2014	EEG 2014			



4.10.4 Offshore wind: EnBW presence in Taiwan



Offshore wind market Taiwan

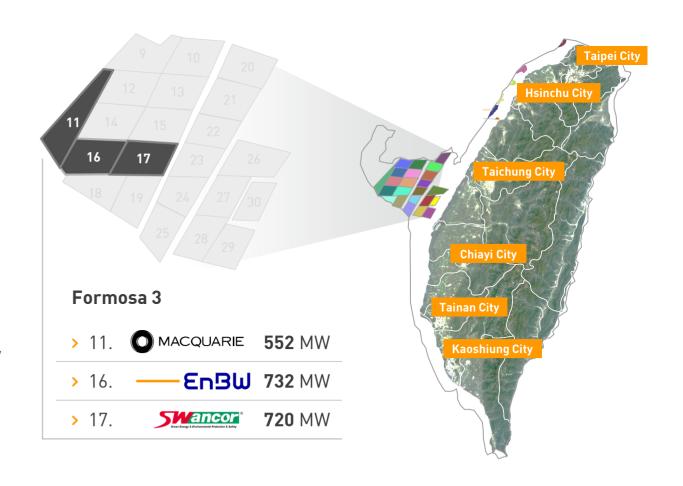
- > Market development up to 5.5 GW by 2025
- Long term goals of cumulative 11 GW by 2035 and 21 GW by 2050

Established EnBW Asia Pacific Ltd.

- > Located in Taipei
- > Building-up a Service JV and enhancing EnBW's local presence

Development of Formosa3-pipeline

- Project development together with Macquarie Capital and Swancor Renewables
- > Three offshore wind projects of up to 2GW capacity
- > Several permits (e.g. EIA approval) obtained
- > Water depths between 35m to 55m

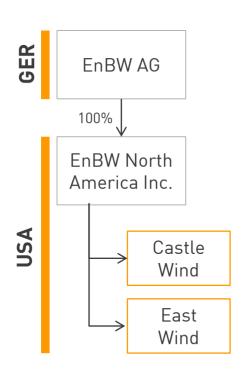




4.10.5 Offshore wind: Project development activities in North America



Corporate Structure



US West Coast (California)

- Joint venture between local floating offshore wind project developer Trident Winds and EnBW (majority shareholder)
- First development of a commercial floating offshore wind project in USA
- California renewable energy generation target of ~60% by 2030



US Fast Coast

- Local subsidiary legally established and in operation with local staff by Q4 2018
- Project company established for future participation in offshore wind lease auctions
- U.S. offshore wind expansion target of at least 8 GW by 2030

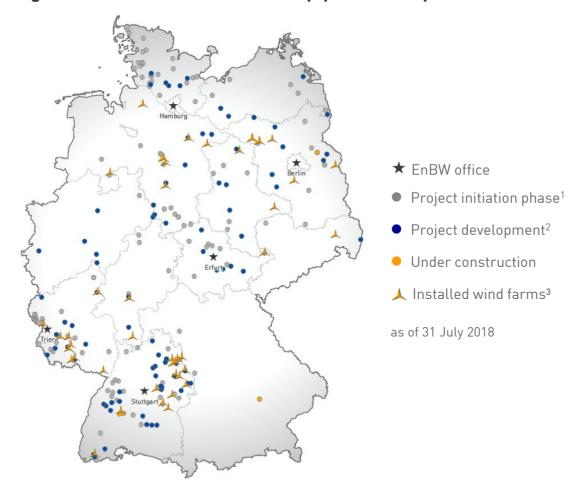


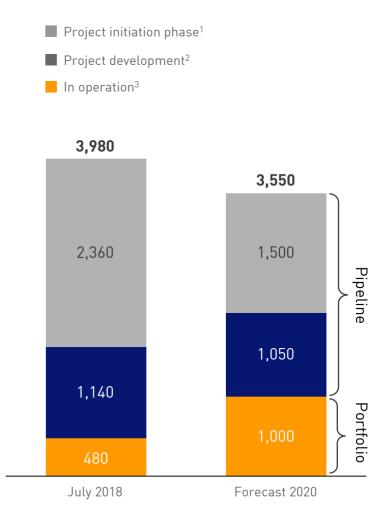


4.11.1 Onshore wind portfolio: Project pipeline 2018 in line with plans for growth up to 2020



Regional distribution of the 2018 pipeline and portfolio





Negotiations for land contracts (low proportion make it to project development);
 At least land contracts concluded (large proportion are completed);
 Wind parks in operation with EnBW majority shareholding



4.11.2 Onshore wind: Installed wind farms (1/7)





	Aalen- Waldhausen	Alt Zeschdorf	Berghülen	Boxberg- Angeltürn	Boxberg- Bobstadt	Boxberg- Oberschüpf	Braunsbach
Country	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	Vestas V126	Vestas V90	Enercon E82-E2	Enercon E-115	Enercon E-115	Enercon E-101	Enercon E-115
Total capacity in MW	16.5	6	6	12	12	3.1	15
Number of turbines	5	3	3	4	4	1	5
Commissioning date	Sep 2017	Dec 2009	Dec 2012	Dec 2016 Feb 2017	Mar 2018	July 2017	Nov 2016 Dec 2016
Feed system	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014



4.11.2 Onshore wind: Installed wind farms (2/7)





	Breitenbach	Bremervörde	Brettenfeld	Buchholz	Buchholz II	Buchholz III	Bühlertann	Burgholz
Country	GER	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	GE 2,75-120	Nordex S70	Nordex N131	Vestas V90	Enercon E82-E2	Vestas V126	Vestas V126	Vestas V126
Total capacity in MW	8,25 (8,25)	9	6.6	36	4	13.2	13.2	9.9
Number of turbines	3	6	2	18	2	4	4	3
Commissioning date	2x Dec 2017 1x Jan 2018	Nov 2016	Sep 2017	Dec 2009	Dec 2012	Sep 2017	May 2017	Sep 2017
Feed system	EEG 2017 ¹	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014



4.11.2 Onshore wind: Installed wind farms (3/7)





	Christinendorf III	Dienstweiler	Dittelsdorf III	Dünsbach	Düsedau	Eisennach II	Elze	Eppenrod	Fichtenau
Country	GER	GER	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	Vestas V90	Nordex N117	Vestas V90	Vestas V126	NEG Micon NM72	Vestas V90	Enercon E53	NEG Micon NW52	Vestas V126
Total capacity in MW	6	4.8	6	9.9	7.5	12	3.2	2.7	9.9
Number of turbines	3	2	3	3	5	6	4	3	3
Commissioning date	Dec 2011	Mar 2017	Jun 2010	Aug 2017	Dec 2002	Dec 2009	Dec 2010	Dec 2001	Sep 2017
Feed system	EEG 2014	EEG 2014	EEG 2009	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014



4.11.2 Onshore wind: Installed wind farms (4/7)





	Freckenfeld	Friedberg	Fürth	Görike	Grevenbroich	Harthäuser Wald	Hasel	Haupersweiler
Country	GER	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	Nordex N131	Vestas V90	Nordex N131	Vestas V90	Vestas V90 GS	Enercon E-115	Vestas V126	Nordex N117
Total capacity in MW	19.8	6	16.5	10	2	54	9.9	15
Number of turbines	6	3	5	5	1	18	3	6
Commissioning date	Dec 2017	Dec 2011	Jun 2018	Dec 2010	Jul 2014	Nov 2015 Dec 2015 Sep 2017	Nov 2017	Dec 2010
Feed system	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2012	EEG 2014	EEG 2014	EEG 2014



4.11.2 Onshore wind: Installed wind farms (5/7)





	Homburg	Ilshofen- Ruppertshofen	Kemberg II	Königheim	Langenburg	Leddin II	Neuruppin	Niederlinx- weiler
Country	GER	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	Nordex N117	Enercon E-101	Vestas V90	Enercon E- 115	Vestas V126	Vestas V90	Vestas V90	Nordex N117
Total capacity in MW	9.6	6.1	12	6	40.05	2	16	4.8
Number of turbines	4	2	6	2	12	1	8	2
Commissioning date	Mar 2017	Jul 2014 Jun 2015	Jul 2014	Sep 2017	Dec 2017	Dec 2009	Feb 2014	Dec 2015
Feed system	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014



4.11.2 Onshore wind: Installed wind farms (6/7)





	Nonnweiler	Oldendorf	Ostercappeln	Puschwitz	Rosenberg Süd	Rositz	Rot am See	Schnittlingen	Schopfloch
Country	GER	GER	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	Nordex N117	Enercon E53	Nordex S70	Vestas V80	Nordex N131	Nordex S70	Vestas V126	DeWind D6	Enercon E82
Total capacity in MW	4.8	12	18	20	6.6	13.5	9.9	1	2
Number of turbines	2	15	12	10	2	9	3	1	1
Commissioning date	Mar 2017	Dec 2010	Nov 2016	Dec 2017	Sep 2017	Nov 2016	Sep 2016	Dec 2002	Dec 2012
Feed system	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014



4.11.2 Onshore wind: Installed wind farms (7/7)





	Schulenburg II	Schwienau II	Söllenthin	Webenheim	Westerheim I	Willich	Winterbach	Zernitz
Country	GER	GER	GER	GER	GER	GER	GER	GER
Technology	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore	Onshore
Type of turbine	Vestas V90	Vestas V80	Vestas V90	Repower MM92	NEG Micon NM600	Vestas V80	Nordex N131	Enercon E66
Total capacity in MW	6	10	6	6.15	0.6	4	9.9	14.4
Number of turbines	3	5	3	3	1	2	3	8
Commissioning date	Dec 2010	Dec 2009	Jul 2014	Dec 2016	Dec 1998	Nov 2004	Dec 2017	Nov 2016
Feed system	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2014	EEG 2000	EEG 2014	EEG 2014



4.11.3 Onshore wind: Windfarm under construction





	Pfettrach
Country	GER
Technology	Onshore
Type of turbine	Senvion M140
Total capacity in MW	3.4
Number of turbine	1
Operation date	Dec 18
Feed system	EEG 2014



4.12 Activities in Turkey¹: Borusan EnBW Energy portfolio projects







4.13 EnBW's trading activities: Central access to wholesale markets to manage price and volume risks





Central interface to wholesale commodity markets for customers and EnBW Group:

- Power, gas, emissions, coal, fuels
- Direct marketing renewables 2018 4,500 MW
- > 500,000+ trades per year
- > 200+ employees

Annual trading volumes, 2017:

- > Power: 640 TWh
- > Natural gas: 750 TWh
- > Coal: 60 mn t
- > Emission certificates: 215 mn t
- Oil· 110 mn bbl

- Marketing electricity from renewable and conventional sources, including for customers and partners, 24/7 service
 - > Privision of "Energiewende products"
 - > Guarantees of origin
 - > Direct marketing of renewables
 - > Virtual power plants with close-to-delivery flexibility
- Procurement and risk management for EnBW sales companies and support for their electricity and gas customers
- Risk management and commercial optimisation of flexible gas portfolio with physical gas storage and supply contracts
- > OTC access for power to NL, FR, CH, AT, CZ, (HU, IT)
- > OTC access for gas: TTF, Gaspool (H/L), NCG (H/L), AT VTP, IT, (FR)
- > Active on major power and commodity exchanges including EEX (Leipzig), ICE (London) PEGAS (Paris) and EPEX Spot (Paris), as well as on OTC markets where we trade with 150+ counterparties.



Agenda 5 – EnBW's Main Shareholdings



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6.	 Key Financials and Non-financials
7.	Capital Markets
8.	Service

5.1 EnBW's Main Shareholdings¹



¹ The full list of shareholdings can be found in the notes to the consolidated financial statements under "(36) Additional disclosures": https://www.enbw.com/enbw_com/downloadcenter/annual-reports/enbw-financial-statements-group-2017.pdf

² Full consolidation 2017.

³ Directly and indirectly held shares.



5.2.1 Energiedienst Holding AG





Established



Employees 994





LocationLaufenburg,
Switzerland



Profile

- Energiedienst generates green electricity from hydropower and sells electricity and gas. The group's own grid companies supply customers with electricity.
- > In addition, Energiedienst is growing in new business areas for tomorrow's world of decentralised, renewable and digital energy. The group drives the Energiewende for customers by providing smart interconnected products and services, including solar panels, heat pumps, electricity storage systems and electric mobility together with car sharing.







Alexander Lennemann

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- > 07623 92 2660
- > www.energiedienst.de



5.2.2 Energiedienst Holding AG at a glance¹



Spanning the Swiss & German markets Sound investment with potential

Additional figures

- Run-of-river power plants with 546 MW installed capacity
- Approximately 8,200 km low-voltage grid
- Around 270,000 electricity and gas customers
- > 994 employees

- Stable cash flows in traditional businesses
- Clear strategic focus on developing new businesses

- Net revenue: €889 m
- > EBIT: €45.6 m (after €11 m one-off effect in 2017)
- > Net profit: €30.6 m
- > Free cash flow: €25.3 m
- > Equity ratio: 52.6%

Three Business Segments

Germany BU	Energy industry/generation	Distribution	Sales
New Business Areas BU	Photovoltaic	Heat and energy solutions	Electric mobility
Switzerland BU	Energy industry/generation	Distribution	Sales



5.2.3 Energiedienst Holding AG: Current key topics and projects



New top-level organization

Three BUs from mid-2017: Germany, Switzerland, New Business Areas

New Business Areas

Development and marketing of smart interconnected products and services based on photovoltaics

The Energiedienst Group also gained additional support in heat and energy solutions with the acquisition of its shareholding in Messerschmid Energiesysteme GmbH.

E-mobility

Expansion of charging station infrastructure and e-car sharing in southern Baden and in Switzerland

Concessions

Applications are underway for multiple electricity concessions

Power-to-gas

Flagship project at Wyhlen hydropower plant to produce hydrogen as fuel

Power-to-liquid

Pilot project at Laufenburg hydropower plant to produce synthetic diesel by producing hydrogen and adding CO₂

Digital roadmap

Digitalisation as a key component in strateg implementation



5.3.1 Pražská energetika, a. s.





Established



Employees 1,449



Q Location Prague, CZ



Profile

- > Electricity distribution in Prague
- > Electricity and gas supplies to all customer segments in the Czech Republic; focus on B2C segment in Prague
- > Renewable generation (focus on photovoltaics)
- > Energy infrastructure services for B2C, B2G and B2B







Mgr. Petr Holubec

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- > www.pre.cz



5.3.2 Pražská energetika, a. s. at a glance¹



Number 3 utility in the Czech Rep.

Balanced risk-return profile

Key figures

- 6,288 GWh electricity distributed
- Stable shareholder structure
- > 1,449 employees
- Strong roots in Prague

Focus on

- Distribution (~60% FBITDA) and
- > Electricity and gas supply (~30% EBITDA)

- > Revenues: CZK 19,369 m
- > Adj. EBITDA: CZK 4,755 m
- > Group net profit: CZK 2,960 m

Ų

Electricity

Generation

Procurement

Distribution

Sales

Three Business Segments



Sales



Grids



Renewable Energies and energy services



5.3.3 Pražská energetika, a. s.: Current key topics and projects





E-mobility

- > Expansion of public charging network
- > B2B and B2C private charging solutions
- > Provision of integrated e-mobility solutions (for OEMs, B2B, B2C), i.e. chargers, commodity, billing, cars (with partner)



Fibre

- > Synergetic development of electricity and fibre grid
- > Backbone for **smart grid** applications
- Provision of fiber infrastructure for telco retail partners (FTTH)



Smart city

- Digitisation of network operation; upgrade to **smart distribution** stations
- > Installation of multifunctional smart lamps (SMIGHT)
- > **E-carsharing** pilot in Prague
- > Multi-commodity measuring in buildings



Energy services

- > Installation of **roof-top solar** systems incl. storage
- Installation of heating, ventilation and AC systems
- Servicing of local distribution networks



5.3.4 Pražská energetika, a. s.: Segment overview





Sales

Adjusted EBITDA 2017: CZK 1,401 m

> Employees: 629

> Activities/products: Sale of electricity and gas; focus on customer retention in Prague (PRE brand) and growth outside of Prague (Yello brand)



Grids

Adjusted EBITDA 2017: CZK 3,002 m

Employees: 580

Activities/products: Distribution of electricity; provision of gridrelated services; guaranteeing security of supply and system stability



Renewable Energies / Energy services

Adjusted EBITDA 2017: CZK 352 m

> Employees: 240

> Activities/products: Energy-related services; project development and management; construction and operation of renewable energy power plants (PVs); energy efficiency consultancy; e-mobility services; operation of local distribution networks



5.4.1 Stadtwerke Düsseldorf Group





Profile

- > City energy utility: Electricity, gas, water and district heating
- > Demand-driven development of interconnected urban infrastructure in the fields of energy, mobility and buildings







Carsten Capari

Business Accounting and Finances

- > info@swd-ag.de
- > www.swd-aq.de



5.4.2 Stadtwerke Düsseldorf Group at a glance¹



Key figures

> Revenue: €1,741 m

EBITDA: €197 m

> Net profit: €79 m

Equity: €716 m

Equity ratio: 37%

> Total assets: €1.935 m

Ų	Electricity	Generation Procure	ement Trading	Distribution
<u>^</u>	Gas	Procurement	Trading Distributi	ion Sales
<u> </u>	District heating	Generation	Distribution	Sales
	Water	Generation	Distribution	Sales
	Waste	Thermal waste trea	tment	Non Thermal waste treatment

Five Business Segments



Electricity



Gas



District heating



Water



Waste

¹ Figures as of 31 December 2017



5.4.3 Stadtwerke Düsseldorf Group: Segment overview





Electricity



Gas



District heating

> **Revenue:** €1.109 m

> Business area: Generation, Trading,

Grids¹, Sales

> **Production:** 24,171 m kWh

> Installed capacity: conventional: 895 MWel

renewable: 29 MWel

Revenue: €260 m

> **Business area:** Generation, Grids¹, Sales

> **Production:** 9.262 m kWh

> Revenue: €82 m

Business area: Generation, Grids¹, Sales

> **Production:** 1,178 m kWh

> Installed capacity: conventional: 855 Mwel



Water



Waste



Others

Revenue: €92 m

> **Business area:** Generation, Grids¹, Sales

> Production: 51m m³

Revenue: €185 m

Business area: Thermal waste treatment

> Production: 434 kt

> Revenue: €13 m

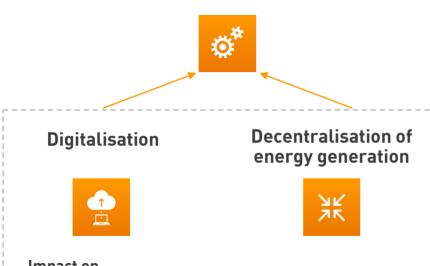
Business area: Services



5.4.4 Stadtwerke Düsseldorf Group: Current key topics and projects



Business development



Impact on

- > Pace
- Development

Creation of new possibilities for

- > Optimisation of conventional business
- New business areas

Optimisation of conventional business

- > Systematic optimisation of our sustainable generation infrastructure
- > Focus among other things on **creating a smart district heating system** for the City of Düsseldorf for enhanced efficiency and customer friendliness
 - > The heart of this district heating system is the Fortuna plant
 - > Electricity and heat are produced using climate-friendly cogeneration technology and natural gas as a low-carbon energy source
 - Düsseldorf Airport will be connected to the district heating system by the end of 2019

New business areas

- > A successful product, the "eddy" e-scooter hit Düsseldorf's streets in 2017
 - > Emission-neutral transport reducing congestion and powered by green electricity for lower environmental impact
 - Eddy is a prime example of modern sector cou (electricity, heating/climate action and mobility)
 - Number of scooters increased due to strong pling demand (h sharing.de/)
 - ADAC automobile club test: Top marks for scooter sharing





5.5.1 VNG AG

---EnBW



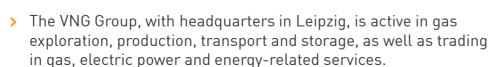
Established 1958



Employees 1.154



Profile



With companies in Germany and other European countries, the group's gas industry expertise covers the entire value stream from the gas field to the consumer.



VNG Group Location

Denmark	1
Germany	12
Italy	2
Norway	1
Austria	2
Poland	2
Slovak Republic	1
Czech Republic	1







VNG AG

- > info@vng.de
- > +49 341 443-0
- > www.vng.de



5.5.2 VNG AG at a glance¹





Exploration & Production business area

- > 34 production licenses (32 in Norway, 2 in Denmark)
- Five participations in producing fields
 (Njord, Draugen, Hyme, Brage, Ivar Aasen)
- > Three licenses as operator
- > Three fields under development (Fenja, Bauge, Solsort)

Storage business area

- > Third-largest storage facility operator in Germany
- Four underground storage facilities
 (Bad Lauchstädt, Bernburg, Kirchheilingen, Etze
- > 2.4 bn m³ storage capacity

<u>~</u>

Trading & Sales business area

- > Wholesale and Retail divisions in Germany and Europe
- > 533 bn kWh gas send-out
- > Germany: 237,000 power and gas consumers
- > Austria: 53,000 power and gas consumers
- > 8 sales offices in Germany (Berlin, Düsseldorf, Erfurt, Frankfurt/Main, Hamburg, Leipzig, Munich, Stuttgart)

\leftrightarrows

Transport business area

- As an independent transmission operator, ONTRAS is responsible for Germany's second-longest gas transmission system
- > 7,000 km high-pressure gas pipeline system
- > 450 network interconnection points
- > 130 downstream network operators



Revenue: €10.3 bn
Investment result: €46 m



Adjusted EBIT: €129 m EBIT: €103.4 m



Group net profit : €71 m



5.5.3 VNG AG: Current key topics and projects (1/2)



Core business



Exploration & Production

- > Continuation of measures to increase value (e.g., development of Fenja)
- > Focus on further development considering the factors value maximization, risk diversification, conservation of capital and maintaining fungibility



Trading & Sales

- > Optimisation of its market position in terms of procurement and sales
- > Focus on the development of midstream excellence and moderate growth in retail business
- Digitalisation of processes and market access



Storage

- Focus on the aim of being cost and innovation leader
- Development of a service business for third parties



Transport

- Increasing implementation of new business segments and continuous optimisation in the regulatory framework (e.g. efficiency improvements)
- > Develop comprehensive expertise in the field of green gas infrastructure
- Invests in biogas, natural gas mobility, P2G and energy efficiency products



5.5.4 VNG AG: Current key topics and projects (2/2)



New business



Biogas

- > Increasing the share of "green" gas and alternative energies
- > Main focus on acquisition and optimisation of plants as well as extension of the value stream



District solutions

> Developing integrated local solutions with advanced network infrastructure in an approach which is independent of individual manufacturers



Digital infrastructure & digital platforms

- > Becoming a leading independent provider of critical infrastructure-based data services
- > Developing platforms like "effizienzcloud"



Innovations and start-up-activities

- Implementation of group-wide innovation process
- > Gaining entrepreneurial impetus from subsidiary VNG Innovation and via partnership with SpinLab



Agenda 6 – Key Financials and non-financials



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7.	Capital Markets
8.	Service



6.1 Five-year summary (1/2)

EnBW Group¹

		2017	2016	2015	2014	2013
Earnings						
Revenue	€m	21,974	19,368	21,167	21,003	20,545
EBITDA	€m	3,752	1,939	1,918	2,137	2,000
Group net profit ²	€m	2,054	-1,797	158	-466	51
Balance sheet						
Equity ratio	%	15.1	8.3	13.4	11.9	17.0
Net debt ³	€m	8,459.5	10,046.0	6,736	7,983	7,271
Cash flow						
Operating cash flow	€ m	-1,696.1	474	1,918	1,776	1,919
Free cash flow	€ m	-2,789.0	-495	652	330	1,168
Profitability						
ROCE	%	7.3	7.8	9.5	10.0	9.7
Value added	€m	152	123	354	376	180
Capital markets						
Dividend per share	€	0.50	0.00	0.55	0.69	0.69
Energy sales						
Electricity	bn kWh	122	115	115	126	128
Gas	bn kWh	250	139	135	117	100

¹ The figures for the previous year have been restated; ² In relation to profit/loss attributable to the shareholders of EnBW AG;

³ Includes investments held as financial assets



6.1 Five-year summary (2/2)



EnBW Group¹

		2017	2016	2015	2014	2013
Sales segment						
Electricity	bn kWh	40	44	48	48	52
Gas	bn kWh	57	54	82	72	69
Revenue	€ m	7,354	7,771	9,061	9,067	9,568
Adjusted EBITDA	€m	330	250	255	231	227
Grids segment						
Electricity sales ²	bn kWh	-	_	_	-	13
Revenue	€ m	7,472	6,644	6,351	6,231	5,708
Adjusted EBITDA	€m	1,046	1,004	747	886	962
Renewable Energies segment						
Electricity sales ²	bn kWh	2	3	3	4	4
Revenue	€ m	508	511	447	407	372
Adjusted EBITDA	€m	332	295	287	191	220
Generation & Trading segment						
Electricity sales	bn kWh	80	68	65	75	60
Gas sales	bn kWh	193	85	53	45	31
Revenue	€m	6,631	4,434	5,300	5,290	4,888
Adjusted EBITDA	€ m	377	337	777	900	839

¹ The figures for the previous year have been restated

² Since the beginning of 2015, electricity sales from the Grids segment are no longer disclosed because the Independent Transmission Operators (ITO) no longer report their data.



6.2.1 Fiscal year 2017: Key performance figures



Key performance figures

		2017	2016	Change in %
Cash flow from operating activities	€ m	-1,696.1	473.6	-
Free cash flow	€ m	-2,789.0	-494.7	-
Equity ratio	%	15.1	8.3	-
Net debt	€m	8,459.5	10,002.9	-15.8
Internal financing capability	%	111.9	72.1	55.2
Value added ¹	€ m	151.5	123.4	22.8
ROCE	%	7.3	7.8	-
Group net profit ^{1,2}	€ m	2,176.3	-1,797.2	-
Earnings per share from Group net profit/loss ^{1, 2}	€	7.58	-6.64	-

¹ The figures for the previous year have been restated.

² In relation to the profit/loss attributable to the shareholders of EnBW AG.



6.2.2 Fiscal year 2017: ROCE and value added



Group level

- Decrease value added at €151.5 m (2016: € 123.8 m)
- > ROCE at 7.3 % compared to 7.8 % in the prior year
- > Increase in average capital employed

		<u>✓</u> Sales		∯ Grids	i	Rener Energ	wable gies	Gene & Tra	ration Iding	Other Cons	·/ olidation	Total	
Value added 2017 by segment ¹		2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Adj. EBIT incl. investment result	€m	262.8	193.2	686.8	668.2	164.9	130.1	-27.0	44.8	21.2	40.2	1,108.7	1,076.5
Average capital employed	€m	836.8	619.7	5,919.2	5,108.5	3,276.9	2,996.9	2,242.4	2,072.8	2,870.8	2,944.1	15,146.1	13,760.9
ROCE	%	31.4	31.2	11.6	13.1	5.0	4.3	-1.2	2.2	-	-	7.3	7.8
WACC	%	7.7	8.3	5.4	5.8	6.1	7.5	8.0	8.4	-	-	6.3	6.9
Value added	€m	198.3	141.9	367.0	372.9	-36.0	-95.9	-206.3	-128.5	_	_	151.5	123.8



6.2.3 Fiscal year 2017: Segment reporting (1/2)



Segment reporting

in € m

	<u>✓</u> Sales		∯ Grids	i	Renev Energ	wable gies	Gene & Tra	ration ading	Other Cons	r / olidation	Total	l
Revenue	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
External revenue	7,354.3	7,771.1	7,471.8	6,643.7	507.5	510.6	6,631.1	4,433.9	9.3	9.1	21,974.0	19,368.4
Internal revenue	921.1	431.4	2,558.6	2,639.0	281.3	272.4	2,739.2	2,341.8	-6,500.2	-5,684.6	0.0	0.0
Total revenue	8,275.4	8,202.5	10,030.4	9,282.7	788.8	783.0	9,370.3	6,775.7	-6,490.9	-5,675.5	21,974.0	19,368.4
Earnings indicators												
Adjusted EBITDA	330.0	249.7	1,045.9	1,004.1	331.7	295.3	377.1	337.2	28.3	52.6	2,113.0	1,938.9
EBITDA	317.8	177.1	1,025.3	897.2	622.5	293.8	1,703.1	-739.3	83.7	101.9	3,752.4	730.7
Depreciation and amortisation	-68.2	-56.5	-435.4	-367.2	-160.4	-153.2	-422.8	-310.4	-27.4	-27.1	-1,114.2	-914.4
Impairment losses	-8.6	-44.2	-0.8	-2.9	-13.5	-11.8	-111.3	-1,417.8	0.0	-2.5	-134.2	-1,479.2
Net profit/loss from entities accounted for using the equity method	3.7	0.0	29.8	12.9	-4.4	-16.5	-0.2	4.6	14.4	-11.0	43.3	-10.0
Significant non-cash items	31.2	22.0	27.2	16.8	2.8	8.6	0.6	11.2	-14.1	-12.5	47.7	46.1



6.2.3 Fiscal year 2017: Segment reporting (2/2)



Segment reporting

in € m

	Sales		∦ Grids		Rene Energ	wable gies	Gene & Tra	ration iding	O Othe Cons	r / olidation	Total	l
Assets and liabilities	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Capital employed	1,004.6	527.9	6,534.8	5,332.2	3,501.9	3,066.5	2,293.0	2,094.2	2,062.2	3,816.6	15,396.5	14,837.4
Of which carrying amount of entities accounted for using the equity method	(198.8)	0.0	(386.0)	(282.7)	(670.2)	(207.7)	(133.6)	(56.7)	(0.0)	(1,288.5)	[1,388.6]	(1,835.6)
Capital expenditure on intangible assets and property, plant and equipment	83.3	51.9	784.0	795.6	417.3	208.1	115.7	111.1	18.9	22.7	1,419.2	1,189.4



6.2.4 Fiscal year 2017: Internal financing capability



			2017	2016	Change in %
Retained cash flow (RCF)		€m	3,050.3	949.5	-
+/- effects from the nuclear fuel tax refund		€m	-1,520.8	0.0	_
Retained cash flow II (RCF II)	(a)	€m	1,529.5	949.5	61.1
Net (cash) investment	(b)	€m	1,367.1	1,316.9	3.8
Internal financing capability	(a)/(b)	%	111.9	72.1	55.2

- > RCF: Cash-relevant earnings after settlement of stakeholder needs (interest payments, taxes, dividends)
- > RCF II: RCF adjusted for the following effects of the nuclear fuel tax refund
 - > Will be used for debt repayment of around €830 m in 2018
 - > Will be used for additional investment of €690 m from 2018 to 2020
- Internal financing capability:
 - > Key performance indicator for the Group's ability to finance its capital expenditures (net cash investment) internally without the need to raise additional capital
 - > Mid-term target: We aim to achieve an internal financing capability of ≥ 100% each year



6.3.1 Half year-2018: Financial and strategic performance indicators



in € m	1/1 – 30/6/2018	1/1 – 30/6/2017	Change in %
	1/1 30/0/2010	1/1 30/0/2017	Onange in 70
External revenue	11,561.8	10,475.8	10.4
Adjusted EBITDA	1,141.0	1,072.6	6.4
Share of adjusted EBITDA accounted for by Sales in € million / in %	159.5 / 14.0	180.8 / 16.9	-11.8 / -
Top Share of adjusted EBITDA accounted for by Grids in € million / in %	684.9 / 60.0	610.6 / 56.9	12.2 / –
Share of adjusted EBITDA accounted for by Renewable Energies in € million / in %	164.8 / 14.4	152.4 / 14.2	8.1 / –
Top Share of adjusted EBITDA accounted for by Generation and Trading in € million / in %	138.8 / 12.2	102.3 / 9.5	35.7 / –
Share of adjusted EBITDA accounted for by Other/Consolidation in € million / in %	-7.0 / -0.6	26.5 / 2.5	-126.4 / -
EBITDA	1,184.7	2,639.6	-55.1
Adjusted EBIT	549.4	543.0	1.2
EBIT	586.8	2,082.6	-71.8
Group net profit ¹	346.2	1,679.3	-79.4
Earnings per share from Group net profit in €1	1.28	6.20	-79.4
Retained cash flow	333.5	1,884.6	-82.3
Retained cash flow II	433.5	881.8	-50.8
Net (cash) investments ²	556.1	449.5	23.7

¹ In relation to profit/loss attributable to the shareholders of EnBW AG.

² The figures for the previous year have been restated.



6.3.2 Half year-2018: Non-financial performance indicators¹



1/1 – 30/6/2018	1/1 – 30/6/2017	Change in %
:, : 00,0,2010	.,. 55,0,2017	3 3.1.93 70
130 / 150	139 / 164	-6.5 / -8.5
8	9	-11.1
2.5	3.1	-19.4
21,397	21,324	0.3
19,999	19,862	0.7
	2.5	130 / 150 8 9 2.5 3.1

¹ The values for the key performance indicators Reputation Index, Employee Commitment Index (ECI),

[&]quot;Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE" and CO₂ intensity are solely determined collected at the end of the year.

² The figures for the previous year have been restated.

³ Variations in the group of consolidated companies; only those companies controlled by the Group are included.

⁴ Number of employees excluding apprentices/trainees and inactive employees.

⁵ The number of employees for the ITOs (ONTRAS Gastransport GmbH, terranets bw GmbH and TransnetBW GmbH) is only updated at the end of the year; for intervals of less than a year, the number of employees from 31/12/2017 is carried forward.

⁶ Converted into full-time equivalents.



6.4.1 Financial and non-financial KPIs and targets: Finance and strategy goal dimensions



Goal	KPI	2017	Target 2020	
Finance goal dimension				
Securing profitability	Adjusted EBITDA in € bn		2.3-2.5	The operating result is to return to the average level achieved before the Energiewende. The total regulated business (Grids and Renewable Energies segments) together contributes around 70 % to this result.
High level of financial discipline	Internal financing capability in %	111.9	>100	The amount of net financial liabilities is controlled by limiting net investment to the level of retained cash flow II. The Group can thus finance its own restructuring internally.
Increasing Group value	ROCE in %	7.3	8.5 - 11	Return on capital employed (ROCE) is higher than the cost of capital. EnBW is creating value for its stakeholders.
Strategy goal dimension ¹ Share of result from "Customer proximity" / Sales	Share of overall adjusted EBITDA in € billion / in %	0.3 / 15.6	0.4 / 15.0	The operating result for the Sales segment doubles from € 0.2 billion (reference year 2012) to € 0.4 billion in 2020 and represents around 15 % of the Group operating result. Innovations make this possible.
Share of result from Grids	Share of overall adjusted EBITDA in € billion / in %	.0 / 49.5	1.0 / 40.0	The operating result for the Grids segment increases by 25% from € 0.8 billion (reference year: 2012) to € 1.0 billion in 2020 and represents around 40% of the Group operating result. The share accounted for by stable regulated business is expanding.
Share of result from Renewable Energies	Share of overall adjusted EBITDA in € billion / in %	0.3 / 15.7	0.7 / 30.0	The operating result for the Renewable Energies segment increases by 250 % from € 0.2 billion (reference year: 2012) to € 0.7 billion in 2020 and represents around 30 % o the Group operating result. EnBW is becoming more sustainable.



6.4.2 Financial and non-financial KPIs and targets: Other goal dimensions



Goal	KPI	2017	Target 2020	
Customers & society goal dime	ension			
Reputation	Reputation Index	52.1	55.4	In parallel with the restructuring of the business model, EnBW aims to continuously improve its reputation.
Customer proximity	EnBW / Yello Customer Satisfaction Index	143 / 161	> 136 / > 159	EnBW and Yello customers are satisfied customers with a high level of customer loyalty. EnBW and Yello are organisations strongly oriented towards customers and meet the needs and wishes of their customers through tailored solutions and products.
Supply reliability	SAIDI (electricity) in min / year	19	< 25	Maintaining supply quality for its customers is of central importance to EnBW in the further development of its grids. The high degree of supply reliability in the grid area operated by EnBW is based on comprehensive investment in grids and plants and our abundant system expertise.
Employees goal dimension				
Employee commitment	Employee Commitment Index (ECI) ¹	60	65	The commitment of our employees to EnBW is very strong and there is faith in the future viability of the company.
Occupational safety	LTIF ¹	3.0	≼previous year	The number of accidents at work and the resulting days of absence remains stable or is falling.
Environment goal dimension				
Expand renewable energies (RE)	Installed capacity of RE in GW and the share o. t. generation capacity accounted for by RE in %	3.4 / 25.9	5.0 / > 40	The share of the generation capacity accounted for by renewable energies has doubled compared with 2012. Onshore and offshore wind power and hydropower are at the forefront of this development.
Climate protection	CO ₂ intensity in g/kWh	556	-15 % to -20 %	EnBW actively contributes to climate protection by successively reducing the $\rm CO_2$ intensity of its own generation of electricity (excluding nuclear power) by 15 to 20% by 2020 compared to 606 g / kWh in the reference year 2015.



Agenda 7 – Capital Markets



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7.1 Service-focused Investor Relations





Ingo Peter Voigt

Head of Finance, M&A and Investor Relations

- > EnBW views investor relations as a service provided for one of its most important stakeholders.
- > Investor Relations strives to meet the information requirements of investors, analysts, rating agencies and banks in a timely manner. Active communication and ongoing dialogue with the target groups enable us to underscore EnBW's potential for generating value added.
- > As only a small proportion of our shares are in free float, our investor relations activities concentrate on fixed-income investors and credit analysts on the buy and sell side to ensure access to the capital markets at all times.
- > EnBW is aware of the importance of investor relations. The interest of our investors is always of relevance when taking strategic decisions.



7.2 Financial objectives and financing strategy





EnBW's financial objectives

- Optimising the cost of capital
- > Ensuring sufficient liquidity for operations at all times
- > Limiting interest rate risk for the Group
- Maintaining a strong credit standing



EnBW's financing strategy

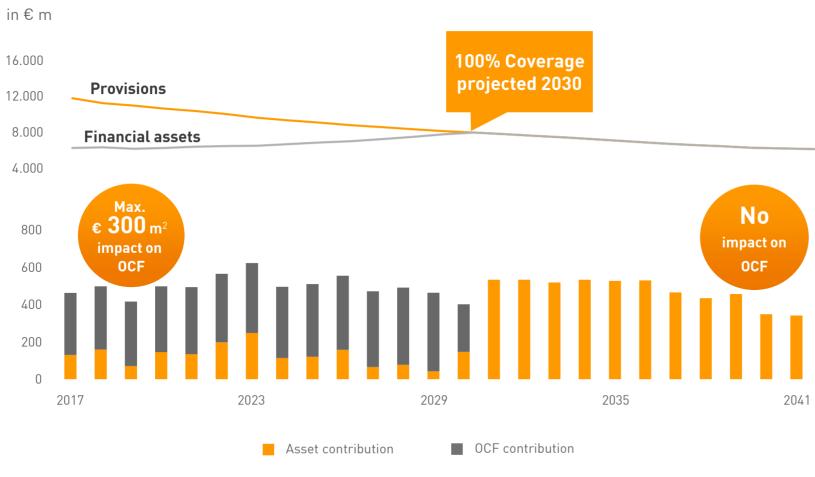
- Multi-pillar strategy offering maximum flexibility in financing
- Diversified market approach
- Widely spread maturity profile; preference for long-term financing for the purpose of risk mitigation
- Hybrid capital to support senior debt holders
- Investments limited to RCF and thus managing net financial debt
- Sophisticated Asset Liability Management to cover future pension and nuclear provisions and limit burden on OCF



7.3 Asset Liability Management Model: EnBW nuclear and pension provisions still covered



EnBW's CF-based model¹



¹ As of 31 December 2017

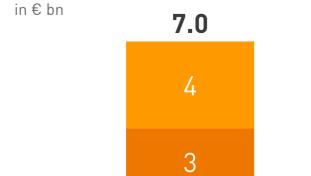
² Adjusted for inflation



7.4 EnBW has a flexible access to various financing sources¹







Debt Issuance Programme

Thereof € 3 bn utilised²



Syndicated Credit Line

Undrawn

Maturity date: 2021





Bilateral Free Credit Lines²



Commercial Paper Programme

Thereof € 180 m utilised





7.5.1 Fixed income: EnBW's senior bonds



Issuer: EnBW Finance B.V.

CCY	Denomination	Volume (mn)	Term (years)	Issue date	Maturity	Coupon (%)	Interest date	Security No. (WKN)	ISIN No.	Stock Ex.
€	50,000	750	10	20/11/2008	20/11/2018	6.875	20 Nov	A0T3US	XS0399861086	L
CHF	5,000	100	10	12/7/2013	12/7/2023	2.25	12 July	A1HM5N	CH0217677654	S
€	1,000	500	20	9/12/2004	16/1/2025	4.875	16 Jan	A0DG9U	XS0207320242	L
€	1,000	500	12	4/6/2014	4/6/2026	2.500	4 June	A1ZJ9E	XS1074208270	L
€	100,000	100	20	13/6/2014	13/6/2034	2.875	13 June		Private I	Placement
YEN	100,000,000	20,000	30	16/12/2008	16/12/2038	3.880	16 June & 16 Dec		Private I	Placement
€	1,000	600	30	7/7/2009	7/7/2039	6.125	7 July	A1AJTV	XS0438844093	L
€	100,000	100	25	16/6/2014	16/6/2039	3.080	16 June		Private I	Placement
€	100,000	50	30	1/8/2014	1/8/2044	2.900	1 Aug		Private I	Placement



7.5.2 Fixed income: EnBW's hybrid bonds



Issuer: EnBW Energie Baden-Württemberg AG

CCY	Denomination	Volume (mn)	Term (years)	Issue date	Maturity	Coupon (%)	Interest date	Security No. (WKN)	ISIN No.	Stock Ex.
€	1,000	1,0001	62	18/3/2014	2/4/2076	3.625	2 April	A11P78	XS1044811591	F, L
USD ³	2,000	3001	60.5	5/10/2016	5/4/2077	5.125	5 April	A2BN7K	XS1498442521	L
EUR	1,000	725 ¹	60.5	5/10/2016	5/4/2077	3.375	5 April	A2BPFD	XS1405770907	L

as of 30 June 2018

L = Luxembourg, F = Frankfurt

¹ Hybrid bond coupon initially

² Increase of hybrid bond ISIN No. XS0674277933

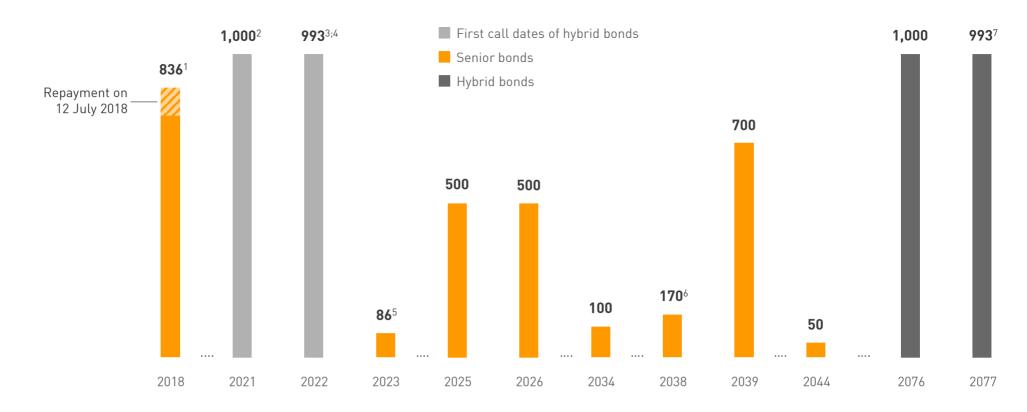
³ Regulation S: These Notes are not offered or sold within the United States or to, or for the account or benefit of, U.S. persons



7.5.3 Fixed Income: Maturities of EnBW's bonds



in € m



¹ Includes CHF 100 million, converted as of the reporting date of 30/06/2018

³ First call date: hybrid maturing in 2077

⁵ CHF 100 million, converted as of the reporting date of 30/06/2018

⁷ Includes USD 300 million, converted as of 05/10/2016

² First call date: hybrid maturing in 2076

⁴ Includes USD 300 million (swap in EUR), coupon for Swap 5.125%

⁶ JPY 20 billion (swap in EUR), coupon for Swap 3.880%



7.5.4 Fixed income: Credit Ratings



Rating: a sound financial policy has allowed EnBW to maintain A category ratings against the negative sector trend

Moody's

A3 / stable
12 June 2018



A-/stable24 July 2018

FitchRatings

A-/stable 28 September 2018

- Leadership position as a vertically integrated utility within Baden-Wuerttemberg
- Around 50% of EBITDA from low risk regulated distribution and transmission activities and growing share of renewables under contracts, as EnBW continues to invest in line with its 2020 strategy
- Difficult operating environment in Germany for conventional generation and increasingly challenging environment in retail markets
- Certain execution risks relating to a large investment programme
- Balanced financial policies and track record in implementing measures to shore up its financial profile
- > Strong shareholder support

- Solid regional competitive position and increasing foothold in national gas distribution
- Considerable progress made in business repositioning strategy
- Increased share of operating income from low-risk regulated activities and long-term contracted renewables
- Still significant exposure to volatile and commodity-driven wholesale power prices
- Well managed funding of nuclear waste-related liabilities, without major disruptions to its strategy or changes to the capital structure
- Prudent financial policy underpinned by utilisation of nuclear tax refund for capex and deleveraging

- Continued evolution towards a more regulated and contracted business profile
- High earnings visibility in grids and renewables partly offset by residual nuclear decommissioning risk; payment of EUR4.8 billion for transferring responsibility for nuclear waste storage has substantially reduced these risk
- Average forecast credit metrics are generally stronger than peers, with some exceptions with respect to funds from operations (FFO) fixed charge cover
- If the share of regulated EBITDA exceeds 50% on a sustained basis, Fitch may apply a one-notch uplift to the senior unsecured rating



7.6.1 Equity capital market: Shareholder structure

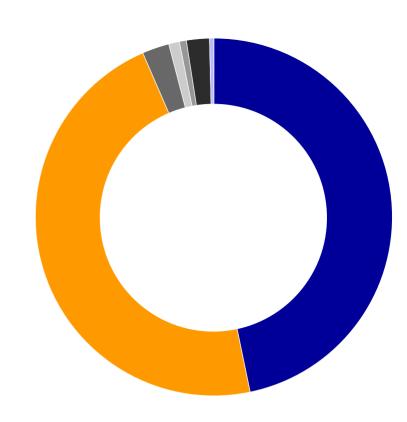
---EnBW

Shareholder structure¹

■ OEW Energie-Beteiligungs GmbH	46.75%
■ NECKARPRI-Beteiligungsgesellschaft mbH²	46.75%
■ Badische Energieaktionaers-Vereinigung	2.45%
■ Gemeindeelektrizitaetsverband Schwarzwald-Donau	0.97%
■ Neckar-Elektrizitaetsverband	0.63%
■ EnBW Energie Baden-Wuerttemberg AG	2.08%
Other shareholders	0.39%

Stock exchange information

ISIN/security ident. no.	DE0005220008/ 522000		
Stock exchange abbreviation	Bloomberg EBK GY/reutersEBK/EBKG.DE		
Transparency level	General Standard		
Indices	General All Share, DAXsector All Utilities, CDAX		
Number of shares	276,604,704		
Class of share	Ordinary no-par value bearer shares		
Stock markets	Regulated market: Frankfurt and Stuttgart Over-the-counter trading: Berlin and Munich		



¹ May not add up to 100 % possible due to rounding

² 100% subsidiary of NECKARPRI GmbH, which is a 100% subsidiary of the federal state of Baden-Württemberg



7.6.2 Equity capital market: EnBW share in figures¹



		2017	2016	2015	2014	2013
Annual high	€	29.63	24.25	27.00	28.39	30.89
Annual low	€	20.00	18.29	20.21	24.50	25.00
Closing price	€	28.78	19.69	20.62	25.60	26.85
Number of shares outstanding ² as of 31 December	m	270.855	270.855	270.855	270.855	270.855
Market capitalisation as of 31 December	€bn	7.8	5.3	5.6	6.9	7.3
Stock exchange trade (total)	# of shares	157.021	80.173	125.440	157.809	95.634
Stock exchange trade (daily average)	# of shares	604	391	568	711	439
Distribution ³	€ m	135.4	0.00	149.0	186.9	186.9
Dividend per share	€	0.50	0.00	0.55	0.69	0.69











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¹ Share value based on closing price trading the EnBW share in XETRA

² Total number of shares 2012 to 2015: 276.605 m shares (2010 to 2011: 250.006 m shares).

³ Distribution in terms of shares entitled as of year-end.



7.7 Key financial indicators





Securing Profitability

Portfolio Transformation

Grids and Renewables with ~70% Adj. EBITDA contribution by 2020

Adj. EBITDA Target 2020 €2.3-2.5 bn Adj. EBITDA Target 2025 €3.0-3.3 bn



High Level of Financial Discipline

Internal Financing Capability

Retained Cash Flow minus Net Investments >0

Coverage of pension and nuclear provisions

Asset Liability Management Model Cap on Operating Cash Flow of € 300 m p.a.



Increasing Group Value

ROCE > WACC

8.5-11.0

Access to Capital Markets

Solid Investment Grade Ratings

Sustainable Dividend Level

Payout Ratio of 40%-60% (medium-term target)



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8.1 Financial calendar





Financial calendar

12 November 2018	Quarterly Statement January to September 2018 (Conference time: 01:00 pm CET)
28 March 2019	Integrated Annual Report January to December 2018
8 May 2019	Annual General Meeting
10 May 2019	Quarterly Statement January to March 2019
25 July 2019	Six-Monthly Financial Report January to June 2019
8 November 2019	Quarterly Statement January to September 2019



8.2 Contact details





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8.3 Important links





Important links

EnBW group online	www.enbw.com
EnBW Investor Relations	www.enbw.com/investors
EnBW Overview Board of Management	https://www.enbw.com/company/the-group/about-us/executive-board/
EnBW Overview Supervisory Board	https://www.enbw.com/company/the-group/about-us/supervisory-board/
EnBW Strategy	https://www.enbw.com/company/investors/strategy/group-strategy.html
EnBW Renewables Energies	https://www.enbw.com/renewable-energy/renewables/
Financial Calendar	https://www.enbw.com/company/investors/events/finance-calender/
Six monthly report 2018	https://www.enbw.com/enbw_com/downloadcenter/quartalsfinanzberichte/six-monthly-financial-report-q2-2018.pdf
Annual Report 2017	https://www.enbw.com/enbw_com/downloadcenter/annual-reports/enbw-integrated-annual-report-2017.pdf
Financing facilities	https://www.enbw.com/company/investors/strategy/
Maturities of our bonds	https://www.enbw.com/company/investors/bonds-share/bonds/
EnBW current ratings	https://www.enbw.com/company/investors/bonds-share/bonds/ratings.html



8.4 Important note



Unless indicated otherwise, all data contained hereinafter refers to the EnBW Group and is calculated according to IFRS.

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words "may", "will", "should", "plans", "intends", "expects", "believes", "assumes", "forecasts", "potentially" or "continued" and similar expressions.

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